FINANCIAL TIMES

No. 27,536 Monday April 17 1978 15p

CONTINENTAL SELLING PRICES: AUSTRIA Sch.15; BELGIUM Fr.25; DENMARK Kr.3.5; FRANCE Fr.3.0; GERMANY DM2.0; ITALY L.500; NETHERLANDS Fl.2.0; NORWAY Kr.3.5; PORTUGAL Esc.20; SPAIN Pts.40; SWEDEN Kr.3.25; SWITZERLAND Fr.2.0; EIRE 15p

NEWS SUMMARY

GENERAL

Bologna train crash kills 45

Forty-five people were killed and more than 100 injured when the Venice-Rome express collided with a derailed passenger train near Bologna. Police fear several more victims could be buried under the wreckage.

Corriere Della Sera newspaper has called for decisive action to ensure that rail tracks are adequately protected from landslips.

In Sicily, four people were reported killed, dozens injured and hundreds made homeless after a series of powerful earth tremors shook Sicily and southern Italy early yesterday.

Israel peace proposals

Israeli Cabinet Ministers have agreed that United Nations resolution 242 should serve as a basis for negotiations with all neighbouring countries. Mr. Ezer Nsor, Cabinet Secretary, said that peace proposals already offered for the West Bank conformed with the requirements of the Resolution, which calls for Israeli withdrawal from occupied territories. Page 2

Budget vote

The Government is increasingly confident of winning the first Commons vote on the Budget tonight, although Mr. John Pardoe, Liberal economic spokesman, stressed yesterday that further tax reductions would be agreed through. Back Page

Bhutto talks

General Zia-ul Haq left Pakistan yesterday for Saudi Arabia where King Khaled is expected to ask for clemency for Mr. Bhutto, the condemned former Pakistan Prime Minister. Page 2

Spy inquiry

Indian Prime Minister Desai has pledged a full inquiry into reports that an American nuclear-powered spy device has been lost in the Himalayas and could contaminate the River Ganges. Page 2

Briefly . . .

Four workers were killed in an explosion at a gas-oil separator plant at Abqaiq, Saudi Arabia.

Claridge's is to issue a libel writ to-day against the Evening News. It alleges that an article gave false and damaging impression of events at the hotel, where chefs and chambermaids are on strike.

An inquest will open to-day into the death of a youth found hanged in Risley remand centre.

Premium Bond £50,000 weekly prize won by bond number 1PB 277780.

More than 150 people were killed when a tornado swept through the Indian state of Orissa.

Man charged in connection with the disappearance of £100,000 from Banbury Securicor office will appear at North Oxfordshire magistrates' court to-day.

Nobel Peace Prize winners Betty Williams and Mairead Corrigan are to stand down as leaders of the Northern Ireland Peace Movement.

A world-wide hunt was on last night for Joyce McKinney and Keith May who face charges of kidnapping Mormon missionary Kirk Anderson. They have not been seen since Wednesday.

Organisation of Petroleum Exporting Countries is to hold an extraordinary ministerial meeting in Taef, Saudi Arabia, on May 6.

Parliament is to be asked to approve research to prevent snoring. Mr. Robert Aldye, Tory MP, said that loss of sleep for snorers' partners threatened health, happiness and work.

BUSINESS

Japan's trade in record surplus

● JAPAN turned in a record balance of trade surplus last month of $2,455bn. Exports totalled $8,783bn., a rise of 33.9 per cent. on the same month last year, while imports fell 0.9 per cent to $6,328bn., according to customs trade figures released at the week-end.

IMF-based figures will be published to-morrow, which will give a more detailed picture.

The Japanese Ministry of International Trade and Industry has given details of a plan to curb exports during the new fiscal year, with a call to industry to limit exports of cars, steel, TV sets and ships to below last year's levels. Page 2

● U.K. TEXTILE trade was nearly in balance with the rest of the world last year, for the first time since 1973. Sales of textiles and clothing were only £6m. less than imports, after deficits of £143m. and £136m. in 1975 and 1976. Page 4

● OECD shipbuilding working party meeting in Paris to-day will consider easier credit terms for ship exports and a plan to draw together developed and underdeveloped countries in the face of the world slump in shipbuilding demand. Back Page

● AN ANGLO-IRISH pact of economic co-operation, with far-reaching implications for the economic development of Ulster is to be announced shortly. A report setting out areas for joint action is being studied by Mr. Callaghan and the Irish Prime Minister. Back and Page 5

● WELSH Secretary has announced a £13m. package of Government measures to provide jobs in South Wales, following the closure of steelmaking at Ebbw Vale next month. Page 9

BL workers seek national action

● SPEKE shop stewards are to press TGWU officials for a co-ordinated national programme involving dockers, road hauliers and other groups, to persuade British Leyland to change its decision to close its TR7 assembly plant next month. Back Page

● MR. MOSS EVANS, leader of the Transport workers' union has said that he wanted to see a return to normal wage bargaining, unfettered by Government limits, but that he expected the unions to act moderately. Back Page

● GROWTH of trade unionism has been the most important achievement of the past four years, Mr. Anthony Wedgwood Benn has said. Back and Page 6

● COMPANIES receiving aid from the National Enterprise Board should be prevented from contributing funds to the Conservative party or to other political pressure groups, a Labour MP has urged.

● PRICES Secretary is to be asked for a Fair Trading investigation into the operations of Bureaux de Change, which, an MP claims, are offering rates of exchange sometimes 20 per cent. out of line with those quoted by authorised banks.

● BNOC's Thistle Field has started to supply oil for the first time, with the first tanker load reaching the Conoco refinery on the Humber. More than a third of the oil processed at the refinery comes from the North Sea, and this is expected to double.

● SPILLER'S bakery staff, to be made redundant by the group's decision to cease baking bread, are to try to buy 35 shops in Norfolk and Suffolk from the company. Page 4

CONTENTS OF TO-DAY'S ISSUE

Overseas news	2	Arts Page	13
World trade news	3	Leader page	14
Home news—general	4-5	U.K. companies	34
—labour	6	International companies	35
Technical page	8	Foreign Exchanges	35
Executive's and Office World	11	Mining Notebook	35
		Eurobond column	36

FEATURES

Oil states' industrial plans	14	Justinian	12
Micro Electronics: The chips are down in Europe	33	Surveys	
Top Management are Blind to the outside World	11	Saudi Arabia II	15-32
		International Retailing	37-43

Appointments	9	Lex	46	Unit Trusts	45
Building Notes	8	Lombard	12	Weather	46
Businessman's Diary	7	Men and Matters	12	World Econ. Ind.	6
Crossword	12	Parliament Diary	9	World Stock Mkts.	44
Entertainment Guide	13	Share Information	44-45	Base Lending Rates	36
Financial Diary	12	Sport	10	Brown Boveri	36
Insurance	7	To-day's Events	12	Gibbons Dudley	36
Letters	19	TV and Radio	12	John A. Jacobs	36
				James Wilkes	36

For latest Share Index 'phone 01-246 8026

Average earnings limit of 7% is aim in next pay round

BY PETER RIDDELL, ECONOMICS CORRESPONDENT

An increase in average earnings of 7 per cent. should soon emerge as the specific Government objective for the next pay round starting in the summer, and the plan is to enforce it in both the public and private sectors.

The controversial contract clauses in official orders will remain part of the Government's armoury to influence the private sector, and the 7 per cent. earnings guideline—implying a rise of about 5 per cent. in basic wage settlements—has been built into cash limits in the public sector.

Ministers will spell out this pay objective shortly in what will amount to a declaration of a "go it alone" policy, rather than wait until near the end of the current pay round.

The 7 per cent. target will be presented as an average, rather than a rigid maximum, to allow flexibility and variations in particular industries. But the same aim has not been achieved in the current round, when the 10 per cent limit has been treated as a flat-rate increase.

Agreement

The Government has become reconciled to the almost certain absence of a detailed pay agreement with the TUC. Unlike last year, there will be no attempt to seek a formal deal with the unions, since this would risk a politically damaging rebuff.

Ministers still hope that the TUC will support a continuation of the rule maintaining a 12-month interval between pay settlements and not openly oppose government policy.

This support is likely to be the Government's main objective in talks with both sides of industry on prices and earnings foreshadowed in the Budget speech.

Mr. Denis Healey, the Chancellor, was low key about the pay policy last Tuesday. He did not mention a Phase Four as such.

It is uncertain how the Government will react to union calls for a shorter working week to be allowed for in the policy, though there is likely to be continued scope for self-financing productivity agreements and special commitments made in the current round, like that to the firemen.

Ministers and officials hope that an early and public concentration on the 7 per cent. figure, coupled with exhortation and the occasional use of sanctions, will win widespread acceptance.

The Government is unrepentent about the use of pay sanctions such as the threatened withdrawal of official aid, believing that sanctions against companies last August were an important check at the beginning of the round.

The Government campaign will stress that, by the early summer, retail prices should be rising at an annual rate of 7 per cent., and so acceptance of the official pay target will allow a rise in the standard of living after taking into account tax cuts.

The proposed slow down in the rate of earnings growth from the range of 13 to 14 per cent. in the current round to 7 per cent. next year, is regarded as unrealistic by many commentators outside Whitehall, who believe that the rate of pay increase will remain in double figures.

The Government, however, bases its forecasts on the achievement of a 7 per cent. earnings rise in 1978-79, with an increase in retail prices of 8 per cent. in the coming year.

Cash limits

The Government's cash limits in the public sector also reflect these pay assumptions, though the financial year and pay policy year are not coincident and many key public sector settlements come late in the financial year.

Pay rises of between 6 and 10 per cent. have been assumed in fixing the cash limit blocks, with an average towards the upper end of the range.

Michael Blanden writes: The progress of the Government's present pay policy will be illustrated this week with the latest figures for average earnings in the first set of pay statistics to be published after the Budget.

The Government has been able to point out that the large majority of big pay settlements have been within the 10 per cent. guidelines. With the retail price inflation rate now well within single figures, and ex-

Continued on Back Page

Mugabe seeks Marxist one-party state

BY MARTIN DICKSON IN SALISBURY AND QUENTIN PEEL IN PRETORIA

MR. ROBERT MUGABE, the co-leader of the Patriotic Front, made it clear yesterday that he wanted a one-party Marxist State in Rhodesia.

"*We believe sincerely that a multi-party system, unless it is particularly desired by the people, is a luxury in a State.*

"*We should concentrate on policies aimed at the transformation of society and we believe therefore that to achieve maximum progress you have got to concentrate your energies in one direction, and this one direction can only be brought about by your aligning yourselves as one force with ideological objectives that seek to be attained.*"

He acknowledged that these objectives were Marxist ones. The Patriotic Front has already committed itself to pre-independence elections and there are indications that Mr. Joshua Nkomo's wing of the alliance would wish to dissociate itself from Mr. Mugabe's remarks.

His statement came as Dr. David Owen, the Foreign Secretary, and Mr. Cyrus Vance, U.S. Secretary of State, prepared to go to Salisbury after talks with Mr. Pik Botha, the South African Foreign Minister. They aimed at dissuading him from supporting Rhodesia's internal settlement.

Mr. Botha responded by pledging continuing support for an internationally acceptable settlement in Rhodesia.

While he declined to advise publicly the leaders of the internal settlement regime in Salisbury to agree to attend all-party talks on the country's future, his statement is as positive as expected by the Western envoys. Diplomatic sources in Pretoria see the implication as being that the internal settlement falls short of the necessary international recognition for a peaceful settlement.

The Anglo-American team and the Patriotic Front remain far apart on the most fundamental premise of the Anglo American plan.

Britain and the U.S. insist on a political balance between all parties to the Rhodesian dispute in the pre-independence arrangements.

In Salisbury the transitional Government—and not Mr. Smith—has selected the nine-man team of three whites and six blacks to meet Dr. Owen and Mr. Vance to-day. Over the week-end two of Mr. Smith's colleagues in the Government, Bishop Muzorewa and Rev. Sithole, again condemned plans for an all-party conference.

Discussions earlier in Dar-es-Salaam with the Patriotic Front centred on the disposition of political and military power in the transition to independence. The Front conceded that Lord Carver, the British resident commissioner designate, should have executive power over the police and military, and that there could be a United Nations peace-keeping force during this time.

But these concessions were heavily qualified with conditions that the U.S. and U.K. are most unlikely to meet. These included a demand that the guerilla forces remained "active" during the transition, and that the governing council should be weighted in favour of the Patriotic Front.

The Front also introduced a major new element, by insisting that its forces should form the basis of the police force. This is well outside the Anglo-American plan.

Unless South Africa can be persuaded to exert pressure on the new Salisbury administration, it is expected that Mr. Smith and the nationalists will once more pour cold water on an all-party gathering.

Michael Holman adds from Lusaka: Mr. Joshua Nkomo, joint leader of the Patriotic Front, said on his return from the talks with Dr. Owen and Mr. Vance in Dar es Salaam that "attempts to marry" the Anglo-American settlement terms with the Front's amendments to those proposals were "as difficult as mixing oil and water."

Mr. Nkomo claimed that the Patriotic Front had moved towards the U.S. and U.K. "as far as we could, but the movement was not reciprocated."

More Rhodesia news Page 3

Price Commission expected to sanction bank charge rises

BY MICHAEL BLANDEN

RISES IN bank charges are likely to be sanctioned in a major Price Commission report expected to be published this week, but important questions may be raised about the structure of the banks' operations.

The report could bring pressure on the banks over the disclosure of their provisions against bad debts, and could suggest other changes, including possibly the payment of interest on current accounts.

The Commission's examination of the banks has been concerned with the charges they levy on customers for the provision of money transmission services.

These cover the handling of cash and cheque transactions and other aspects of the banks' service concerned with the making of payments.

The banks have taken the opportunity to put forward a strong case for higher charges. They have maintained that the rates at present paid by customers fall substantially short in many cases of covering the cost of handling the business, and it is likely that the Commission will accept this point in general.

In conducting its examination the Commission has been drawn into looking at other aspects of the banks' operations as they relate to the charges made for current accounts.

One important point has been the provisions made by the banks against bad debts, which are averaged over a period of years and are kept strictly secret.

The Commission is understood to have regarded these figures as important to its understanding of the structure of charges. But it is believed to have elicited from the banks only a global figure rather than an individual breakdown.

Another issue which will arise is the relationship between interest income and bank charges. Strictly speaking, these are separate points; but the Commission has recognised that a bank may make a useful profit from interest earnings on a customers' account, even if the commission charges made for handling the business do not cover its cost.

The issue was raised in the more limited report published earlier this year after the investigation of increases in charges proposed by Barclays Bank for certain nationalised industries.

In that report, the Commission said specifically that "we reserve to our examination report our conclusions as to whether, in assessing money transmission services, account should also be taken of interest income."

Another specific point which will be covered is the proposal by the banks to make a charge for holding cash on behalf of customers.

This again arose in relation to the Barclays investigation, and the Commission deferred its conclusions to the report on its broader examination because of the wider issues raised.

● Rises in bank overdraft rates are likely this week, after the increase in the Minimum Lending Rate from 6½ to 7½ per cent. announced in the Budget.

As the money markets fall into line, there will also be continued concern over the performance of the foreign exchange and gilt-edged markets after last week's initial adverse reaction to the Budget measures.

Italian parties in Moro dilemma

By Dominic J. Coyle and Paul Betts

ROME, April 16

ITALY'S MAIN political parties, including the Communists, have been thrown into a state of uncertainty by the ultra-Left Red Brigade terrorist group's statement that Sig. Aldo Moro, the former Prime Minister, had been found "guilty" by a so-called peoples' court and "sentenced to death."

Leaders of the ruling Christian Democrats and the Communists held emergency meetings here to-day and, although re-affirming that there could be no formal political deals with the terrorists, the emphasis has moved perceptibly towards "using every possibility on humanitarian grounds" to save Sig. Moro's life.

There remain, however, considerable doubts in some Christian Democrat circles as to whether Sig. Moro, the party president, is still alive. He was kidnapped exactly a month ago in a bloody ambush, in which five policemen died.

He was driving to Parliament to attend a confidence motion sanctioning a complex deal between his party and the Communists, bringing the latter into the Parliamentary majority for the first time in about 30 years.

The Red Brigade's communique, delivered simultaneously in Rome, Milan, Turin and Genoa late last night, said: "The interrogation of Aldo Moro is over. He is obviously guilty and has been sentenced to death."

Contacts

It did not mention any compromise formula to save his life, although earlier communiques did hint at his possible release in exchange for a number of terrorists on trial or in prison.

The Christian Democrat leaders, supported strongly by the main political parties, have insisted that it will not consider seriously such an exchange, although informal contacts are said to have taken place with the Vatican on such a possibility.

It is understood that details of last night's communique were given to Pope Paul, who had earlier made a public plea for the release of Sig. Moro, a personal friend for more than 30 years.

Sig. Giulio Andreotti, the Prime Minister, who attended this morning's meeting of the party leadership, also had a private meeting to-day with Sig Giovanni Leone, President of the Republic.

Wall Street merger may be probed

BY JOHN WYLES IN NEW YORK, JOHN WICKS IN ZURICH AND NICHOLAS COLCHESTER IN LONDON

ONE OF the most important mergers yet to have occurred in Wall Street, Merrill Lynch, Pierce Fenner and Smith's $50m. cash purchase of White Weld and Company, looks likely to be the target of a Department of Justice Anti-Trust probe.

Announced with a minimum of fuss late on Friday afternoon, the deal will arouse some concern within the securities industry, where Merrill Lynch is already by far the largest U.S. brokerage company, with a capital worth as great as the next four or five largest securities firms combined.

In Europe, the deal will lead to complicated negotiations over the future of Credit Suisse White Weld, a major European investment bank.

Credit Suisse general management told the Financial Times that the company would now discuss co-operation with Merrill Lynch through Credit Suisse White Weld, but any agreement would depend on Credit Suisse retaining control over CSWW.

Should it prove impossible to reach agreement, Credit Suisse can use its option to buy out the former White Weld holding in CSWW of 30 per cent. Credit Suisse already has 47 per cent. of CSWW.

CSWW is itself an estimated $15m. richer as a result of the sale to Merrill Lynch of its own 30 per cent. stake in White Weld.

Floating in quasi-independence between its Swiss and American backers, it will want to play more than a passive role in determining its future under the new circumstances.

Last night, its directors were discussing alternative courses of action. The company is one of the top ten managers in the international capital markets.

Mr. John Craven the deputy chairman of the executive committee of the CSWW holding company, predicted that the new set-up would be clear within a fortnight.

He explained that since CSWW's 30 per cent. stake in White Weld had been one of the keys to Merrill Lynch's investment, CSWW had been able to assure itself in advance, in consultation with Credit Suisse, that there would be a favourable outcome. "We are sitting comfortably," he said.

Nevertheless, because of the speed with which the Merrill Lynch—White Weld deal had been brought together, it proved impossible to sort out the international consequences in advance.

Mr. Craven suggested that Merrill Lynch's international investment banking operations might now be vested in CSWW. But he added other possibilities that are explained in a separate article on Page 20.

The deal in New York is the latest in a string of mergers forced on Wall Street by poor trading conditions in the equity and fixed income markets, and by the abolition three years ago of fixed commissions on institutional transactions.

The largest marriage so far, between Dean Witter and Reynolds Securities created a new entity at the start of this year, with a capital of around $150m.

This aroused the interest of the Department of Justice Anti-Trust division, but no action was taken after a close investigation.

In recent years, the Government has not challenged any combination in the U.S. Securities industry, and those involved in recent mergers have argued that neither should it do so, since the consolidation within the industry results largely from action inspired by the Congress and the Securities and Exchange Commission to step up competition between brokerage firms.

Fear that its purchase might prove controversial in some quarters may account for the fact that Merrill Lynch has so far given a minimum of public explanation for the White Weld acquisition.

Many of White Weld's 2,000 employees were surprised by the announcement and some may be victims of the consolidation. Friday's terse statement said that most would be expected to continue with Merrill Lynch.

One who is definitely staying on is Mr. Paul Hallingby Jr., chairman of White Weld, who becomes vice chairman of Merrill Lynch, Pierce Fenner and Smith. The White Weld name will not disappear entirely and will be joined to Merrill Lynch's investment banking arm, which has been renamed the Merrill Lynch-White Weld Capital Markets Group.

White Weld was operating 26 domestic and seven overseas sales offices staffed by 500 account executives. These numbers will be a modest addition to Merrill Lynch's 370 offices worldwide and its 6,160 strong retail sales force.

In the past few years, Merrill Lynch has expanded its world investment banking operations and has also created two commercial banks, one based in Panama and the other in London.

The company figures prominently in the international underwriting business. It is the reconciliation of these aims with those of Credit Suisse White Weld and of Credit Suisse itself that is the problem in discussions over the future status of CSWW.

Its present ownership is Credit Suisse 47 per cent., Merrill Lynch 30 per cent., the Ludwig Institute for Cancer Research and CSWW directors, the remainder.

Japan's trade surplus at new record

BY CHARLES SMITH, FAR EAST EDITOR TOKYO, April 16.

CUSTOMS clearance trade figures published by the Ministry of International Trade and Industry on Saturday show that Japan ran a record surplus of $2.455bn. last month. Exports came to $8.783bn., up 22.9 per cent. from the same month one year ago, while imports totalled $6.328bn., down 0.9 per cent. The Customs clearance figures include freight and insurance in the value of imports and thus understate the true size of the surplus. IMF-based figures, which give a more accurate picture, are due to be published to-morrow.

Simultaneously, with the publication of the Customs clearance trade figures, the Ministry of International Trade and Industry issued further details of a plan to curb exports during the new Japanese fiscal year. The plan has already been extensively discussed, but MITI's Saturday announcement was slightly more concrete than the previous versions. The Ministry said it would call on industry to cut exports of cars, steel, TV sets, and ships to below last year's level. It also promised "guidance" to a range of other industries to prevent undue export increases. The list includes motor-cycles, copying machines, watches, and cameras. A committee to monitor exports and the effectiveness of MITI's guidance to the industries concerned will be established under the Vice-Minister of International Trade and Industry, Mr. Toshinobu Wada.

The MITI plan does not involve the imposition of statutory export controls on industry, although the Government has the power to do this. (The powers were last exercised in 1972.) MITI has consistently opposed the invocation of statutory restraints during discussions on how to curb exports that have been going on for the past month.

A region-by-region breakdown of Japan's foreign trade (on the basis of customs, clearance figures) show that, during the 12 months ending in March, Japan ran a $8.9bn. trade surplus with the U.S., and a $4.6bn. surplus with the EEC. Both of these figures were records, as was the overall trade surplus for the period of $12.9bn. The most rapidly growing Japanese export item during the 12-month period (corresponding to Japan's 1977 fiscal year) was cars. Car exports rose 18.5 per cent. in volume terms to 4.47m. units, and 28 per cent. in Yen terms, to Y3,304bn. Car exports thus overtook steel to become Japan's number one export item.

Catalan autonomy move

BY DAVID GARDNER BARCELONA, April 16.

THE MOVE towards restoration of Catalan autonomy has made progress with the consclusion of the two-week visit to Madrid of Sr. Josep Tarradellas, president of the Generalitat. The Generalitat is Catalonia's traditional Government and was re-established by Royal decree last September 29, following negotiations between Sr. Tarradellas and the Government, shortly after the June general elections.

The object of Sr. Tarradellas's visit was to speed up the transfer of administrative power to the autonomous Government, after six months devoted mainly to discussion of the Generalitat's internal workings. In this latter debate, Sr. Tarradellas appears to have won grudging acceptance for his view of the Generalitat as an essentially presidential institution. This has been widely seen as decisive in quieting Government fears of a Left-wing dominated Generalitat, after Socialists, Communists and centre-left Nationalists took a majority of Catalan parliamentary seats in the general elections.

After the negotiations just concluded in Madrid, the Generalitat will have substantial control over Catalan local Government, particularly in the area of public services, works, and utilities. Catalan will be taught in the schools on a par with Spanish. And, most importantly, Catalonia's four provincial governors will meet reguarly under the presidency of Sr. Tarradellas, though it is not yet clear whether this implies more than consultative power.

Greek Cypriots call for unity

Greek Cypriot leaders have moved to prevent a split within their community, especially among the 200,000 refugees, in the face of the new Turkish proposals which reportedly allow for some of the refugees to return to their homes, writes our Nicosia correspondent. Both the Government of President Spyros Kyprianou and Archbishop Chrysostomos, the Greek Orthodox prelate, have urged the people to remain "united at this critical hour."

Their call follows reports in opposition newspapers that the Turkish offer should not be rejected since it would permit up to 70,000 of the Greek Cypriot refugees to go back to their homes, especially around the Famagusta area. Both the Government and the Archbishop described the reports as false and misleading and said they were aimed at causing a rift within the refugees and confusion within the community.

Ethiopian tank force

Ethiopia has moved two large tank columns into areas bordering Eritrea in what guerilla sources believe to be the first moves in a major Soviet and Cuban-backed attempt by Ethiopia to retake Eritrea, Alan Darby reports from Khartoum. Some 5,000 Ethiopian troops with about 120 Soviet and Cuban advisers and 70 Soviet-built tanks arrived in Makelle, capital of Tigre province which borders Eritrea, on April 12, according to the Tigreian Popular Liberation Front in Khartoum. A force of similar strength has reportedly reached Gondar, capital of Bergemdir province, said the TPLF spokesman. Both forces came overland from Addis Ababa. The guerillas expect the Ethiopians to move the tank columns north into Eritrea before the rains begin in mid-June.

Low Soweto turnout

A Government "new deal" election in the black township of Soweto this week-end drew only 6 per cent. of the electorate to the polls, according to voting figures, Reuter reports from Johannesburg. The low turn-out was expected to encourage millitant black politicians who had scorned the ballot. It was held to choose a new local council for Soweto, where more than 500 people died in an upheaval of black protest in 1976.

Irish layoffs feared

Some Irish companies are on the point of laying off workers because of the effects of the telecommunications dispute, now in its 11th week, our Dublin correspondent writes. Particularly badly hit are firms specialising in exports, who have found themselves virtually cut off from their customers.

● NEWS ANALYSIS—MERRILL LYNCH AND WHITE WELD

Wall Street's merger wave reaches Europe

BY NICHOLAS COLCHESTER IN LONDON AND JOHN WYLES IN NEW YORK

MERRILL Lynch's purchase of White Weld is the latest in a merger wave which has swept Wall Street for more than a year. This consolidation, which has brought together firms such as Dean Witter and Reynolds Securities, Kuhn Loeb and Lehman Brothers, Loeb Rhoades and Hornblower Weeks, Noyes and Trask, must have been a prime factor in persuading White Weld that its survival in a business dominated by more highly capitalised and diversified firms could be steadily more difficult.

Increasingly, it has become the conventional wisdom on Wall Street that the future may only be secured by access to large sums of capital to finance securities underwriting and trading which should be allied to as large as possible a retail distribution network.

It is no accident that the company which best fits this model is Merrill Lynch Pierce Fenner and Smith. With $645.8m. of shareholders' equity it has nearly four times more capital than the industry's number two, Salomon Brothers, 269 offices in the U.S., more than 6,000 retail salesmen and an increasingly important international business in brokerage and investment banking which last year accounted for 9.4 per cent. of total revenues and 10.1 per cent. of net income.

Two and a-half years ago White Weld attempted to broaden its traditional underwriting and investment banking base through the purchase of a retail brokerage firm, G. H. Walker Laird and Co. White Weld's first acquisition in 79 years. G. H. Walker furnished the old Wall Street firm with a new president and chief operating officer, Mr. Frederick S. Wonham. Insiders suspected that this new approach was not going too well and Mr. Wonham's resignation last November, without public explanation, confirmed many in their view that White Weld was still looking for a new role. It is thought that White Weld was losing the race for big corporate clients to the capital rich crowd of Morgan Tanly, Merrill Lynch, Goldman Sachs and Salomon Brothers, and that the company was also having difficulty in holding its major role in municipal underwriting.

On the surface, there appears to be little that White Weld will be bringing to Merrill Lynch that the industry giant does not already have, except the possibility of a valuable tie-up with Credit Suisse.

The deal raises a question mark over the ownership of one of the most significant banking firms in Europe, Credit Suisse White Weld. Credit Suisse has already indicated that it will not be selling its 47 per cent. stake in this—its international investment banking arm. The question is whether Merrill Lynch can devise a formula to hold on to White Weld's 30 per cent. stake in CSWW without there being a conflict with its own aspirations in the international banking field.

A number of possibilties now present themselves. Merrill Lynch might hand over the whole of its overseas investment banking operation to CSWW—in effect recreate the arrangement that CSWW had with White Weld in the U.S. Alternatively, Credit Suisse could buy Merrill Lynch's new stake in CSWW. If this were the case CSWW might well want to buy an investment bank on Wall Street to restore its U.S. connections. Happily CSWW is cash rich at the moment because of the 30 per cent. plus of White Weld U.S. that it has just sold to Merrill Lynch. Again, CSWW might use this cash to buy up its own shares from Merrill Lynch making some provision that the voting rights were suitably lodged.

More International Financial and Company News Page 35

White Weld's European operation was one of the pioneers of the Eurobond market in the sixties. It brought the first U.S. corporate borrower, American Cyanamid, into the market in 1965 and two years later managed the first issue of Eurodollar Certificates of Deposit for Citicorp.

Its eminence in the international bond market was reinforced in 1974 when it acquired Credit Suisse as a backer. The big Swiss bank had itself been planning a major expansion of international investment banking but felt compromised by its 18 per cent. holding in U.S. White Weld. So it made a virtue out of this problem by adopting White Weld's European operation as the vehicle for its own offensive.

The combination of its experience, the Swiss bank's placing power, and White Weld's American connections have enabled CSWW to stay high in the Eurobond underwriting league table in the face of the challenge of the commercial banks. In 1977 it took second place only to Deutsche Bank.

India opens new plant for N-fuel

By D. P. Kumar

NEW DELHI, April 16.

INDIA'S NUCLEAR fuel reprocessing plant at Tarapur, where the country already has two atomic power reactors, is complete and is already reprocessing spent fuel to recover plutonium.

This significant development was announced casually in the annual report of the Department of Atomic Energy released on Saturday. It comes in the midst of a conflict between India and the U.S. which is now delaying the supply of enriched uranium.

The U.S. Government is insisting on India signing the Nuclear Non-proliferation Treaty before it can resume supply of enriched uranium for the Tarapur plant, but Mr. Morarji Desai, the Indian Premier, has declined to sign it until all the nuclear nations renounce the use of atomic weapons and destroy the existing nuclear stockpile.

The reprocessing plant, which was completed nearly a year ago, has been uncommissioned until now because the U.S. has refused permission to reprocess spent fuels from the Tarapur plant.

New chief of staff for Israel

BY L. DANIEL JERUSALEM, April 16.

ISRAEL'S ELEVENTH Chief-of-Staff, Lieutenant General Raphael Eitan, formally assumed his post to-day, taking over from Lt.-Gen. Mordecchai Gur who is leaving active army service after four years in the top post. Gen. Gur was appointed six months after the Yom Kippur war and had the unenviable task of restructuring the top echelons, re-equipping the Israeli army and of eradicating the demoralising after-effects of the Arab surprise attack of October 1973.

The new deputy Chief-of-Staff will be Major-Gen. Yekutiel Adama.

Both the new and the outgoing Chiefs of Staff joined the "Palmach"—the fighting arm of the Haganah—before the State of Israel was established. Both have distinguished service records, having played a prominent part in all campaigns. But they are very different personalities. General Gur, soft-spoken and highly articulate, likes writing children's books as a hobby, and intends to return to university for further study after a short lecturing tour in the U.S.

The new chief of staff, 49-year-old "Raful," as he is known, is the very opposite—a man of very few words. His acceptance speech this morning, read from a prepared text, took exactly 19 seconds.

Mr. Ezer Weizman, the Defence Minister, who recommended General Eitan for the tough job, to-day described him as a "very tough, good commander."

Meanwhile, the Israeli Cabinet at its weekly meeting to-day re-affirmed that it regards Security Council Resolution 242 as the basis for negotiations with all of Israel's neighbours—Egypt, Jordan, Syria and Lebanon.

Iran resumes oil sales talks

BY ANDREW WHITLEY TEHRAN, April 16.

TALKS on a new long term relationship between Iran and its major oil customers, the 14-member Western consortium led by British Petroleum, have re-opened in Tehran amid indications that agreement may be near.

Negotiations were adjourned for a month over the Easter and Iranian new year holidays, after significant progress was reported in several areas of discussion and were resumed yesterday.

Unconfirmed reports say the six-man consortium team, led by a managing director of BP, Mr. John Sutcliffe, is prepared to stay on in Tehran until a final outcome. Local press reports, which undoubtedly reflect official thinking, are cautiously optimistic.

There is tacit recognition that Iran is bargaining at an unfavourable time when soft market conditions are expected to persist for many months. This is illustrated by the disappointing export figures for the first quarter of 1978, which are running below official projections at an average of 4.84m. b/d.

Pakistani leader on Saudi visit

By Simon Henderson

ISLAMABAD, April 16.

PAKISTAN'S military ruler, General Zia-ul Haq, left to-day for Saudi Arabia on a visit seen here as crucial to the eventual fate of the condemned former Prime Miinster, Mr. Z. A. Bhutto. The visit, the third since General Zia took over last July, comes when most Middle East states have sent appeals for clemency to be shown to Mr. Bhutto.

Saudi Arabia has denied sending any such message but informed foreign sources here say that Riyadh is very concerned by the prospect of Mr. Bhutto being hanged if his appeal against sentence in a case of political murder fails. General Zia is accompanied by a high powered delegation including several members of his advisory council as well as the influential senior corps commander, General F. A. Chisti. Observers here expect King Khalid and Prince Fahd to inquire in the talks covering matters of mutual interest General Zia's exact plans.

FINANCIAL TIMES, published daily except Sundays and holidays. U.S. subscription $200.00 (air freight) $360.00 (air mail) per annum. Second class postage paid at New York, N.Y.

OVERSEAS NEWS

THE ANGLO-AMERICAN MISSION TO RHODESIA

Searching for compromise

BY TONY HAWKINS IN SALISBURY

ON THE face of it, the mission to Salisbury to-day of British Foreign Secretary David Owen and U.S. Secretary of State Cyrus Vance seems doomed to failure. The two foreign ministers would like the signatories of the March 3 Salisbury agreement to attend an all-party conference based on the Anglo-American proposals published last September. Yet in the past 24 hours both Bishop Abel Muzorewa and Rev. Ndabaningi Sithole, who, with Mr. Ian Smith and Chief Chirau are members of Rhodesia's ruling interim Executive Council, have again turned down these plans.

Rev. Sithole told a rally at the north-eastern town of Sinoia on Saturday that an all-party conference was "anathema." He said he did not think the British or the Americans understood how Rhodesian blacks felt about the Salisbury agreement: "We signed it with our burning souls and can never unsign it." And Bishop Muzorewa said in an interview that Dr. Owen and Mr. Vance would find that Rhodesians could be "stubborn, firm and uncompromising." The Salisbury agreement was a fact of life, he said.

This tough talk from the domestic nationalist leaders contrasts with the silence of Mr. *Smith's Rhodesian Front.* Mr. Smith has said very little about the Owen-Vance visit other than *to warn at a private meeting last* Thursday that the two ministers were not coming to Salisbury *to recognise* the domestic agreement but to try and impose the Anglo-American plan.

Mr. Smith told his closed door meeting that it was most desirable that Mr. Joshua Nkomo, co-leader with Mr. Robert *Mugabe of the external* Patriotic Front, returned to Rhodesia and joined in the agreement—though *not on a preferential basis but* sharing power with the other nationalist leaders. Mr. Sithole *and Bishop Muzorewa* have made similar appeals, and it is understood that recently a black *emissary* went to Mr. Nkomo in Lusaka to make precisely this offer.

Mr. Smith's relative silence on *the visit has led to some con*cern, especially in domestic black nationalist circles, that he might *contemplate making far greater* concessions to Mr. Nkomo than the internal leaders believe desirable. *Bishop Muzorewa is* very confident of being able to win free elections and therefore only too willing to see Mr. Nkomo, who relies almost exclusively on the 14 per cent. Ndebele tribal groupings for his support, to contest genuinely free elections. What the Bishop and Rev. Sithole cannot accept is the demands of Mr. Nkomo's *Patriotic Front*, repeated at the Dar es Salaam meeting this week-end, that the army be *replaced by the Patriotic Front* guerilla army and that the Patriotic Front should have a *disproportionate share of power* in any transitional administration.

Taken at face value the *Muzorewa-Sithole statements* mean that the Owen-Vance trip is doomed before it starts. However, *if Mr. Smith is willing to* be more flexible on a number of points it may yet prove *possible to patch up some form* of compromise on the question of attendance at an all-party *conference. But it is very diffi*cult indeed to see compromise going further than that.

The points on which Mr. Smith is believed to be willing to compromise in order to bring Mr. Nkomo into the agreement are:

Ashley Ashwood

Rev. Ndabaningi Sithole

Bishop Abel Muzorewa

● The *acceptance of Lord* Carver, the Resident Commissioner designate, as an *independent chairman of the transitional* government with no overt executive powers other than in the *field of law* and order. At the same time, there would be agreement to Mr. Nkomo and Mr. Robert Mugabe joining the existing executive on equal terms with the other four members.

● The appointment of Lt.-Gen. Chand, the *special UN representative* for Rhodesia, as head of the Rhodesian armed forces during the transitional period, allied with an agreed programme of integrating suitable guerillas within the existing forces.

● A widening of the existing 18-man Cabinet council to include three *Nkomo* and, *if need* be, three Mugabe representatives.

● *No presence* in any numbers of a UN force, but suitable back-up staff for Lt.-Gen. Chand, plus *UN* or *U.K.* observers, to ensure fair play at the planned one-man-one-vote elections.

● The Rhodesians would oppose any renegotiation of the *plan for* a new constitution but they would be willing to submit to certain minor amendments *if* this was the price that must be paid for Mr. Nkomo's participation.

While such concessions would not be welcomed by the black *participants to the* Salisbury agreement, they would almost certainly go along with them in *return for a cease-fire and Mr.* Nkomo's return.

However, observers here believe that these concessions *are most unlikely to be regarded* as an adequate basis for Anglo-American acceptance of the "structure" *of the internal plan* But they might yet be regarded as a basis for the transitional government to send its delegation to a proposed all-party conference.

The transitional Government —and not Mr. Smith himself—has selected the nine-man delegation *that will take part in the* Owen-Vance talks to-morrow. Reflecting the multi-racial *character of the transitional* administration (which has a black majority) there will be six black and three white *members*. Mr. Smith will be accompanied by his Foreign Minister Mr. Pieter Van *Der Byl and his* Finance Minister, Mr. David Smith.

The composition of this dele*gation suggests that the transi*tional Government will insist on attending any proposed all *party conference as a single* team and not as individuals.

WORLD TRADE NEWS

Dutch plea for better export finance

BY CHARLES BATCHELOR AMSTERDAM, April 16.

MINOR ADJUSTMENTS in Holland's range of export facilities could greatly increase their *effectiveness, according to a* major export financing bank. This could be done without pro*voking counter measures from* other trading nations and without weakening the commercial prin*ciples underpinning export aid,* the Export Financierings Mij (EFM) claimed.

Despite EEC consensus on a uniform approach to export financing some countries, parti*cularly the U.K. and France, are* flexible in their interpretation of these agreements, Dr. W. J. Ford, *chief director of the bank*, said. Also the German Laender Governments also do not hold strictly to agreements made by the Federal Government.

Other exporting nations, he claimed, get around the gentleman's agreement on export credit by granting mixed credits, composed of export credits and development aid. Dutch exporters *have been urging their Govern*ment to do the same. Holland grant more mixed credits, Dr. *Ford said.*

Holland has set up a "matching fund" of Fls.100m. to allow *Dutch exporters to provide* the same financing terms as those foreign exporters who go below *the consensus levels. The prob*lem is that by the time a foreign exporter reveals he has won a contract with the help of cheaper financing it is too late for the Dutch exporter to match the terms.

Holland has a facility for granting cheaper loans; the Export Financing Arrangement (EFA) *which currently has a* ceiling of Fls.3.24bn. These funds, which are provided by *Dutch commercial banks,* currently carry a 6½ per cent. rate of interest compared with *the 7½ to eight per cent. rate on* government credits. At present however Holland will not allow *export credits* which are below the internationally agreed rate so the cheap EFA rate is always increased to the higher government credit level. The link *between these two forms of* credit should be abolished, allowing Dutch exporters access *to the cheaper EFA credits, Dr.* Ford said.

An important element of risk insurance *is the size of the risk* which the exporter carries himself for which there is no in*ternational agreement. Countries* decide individually on the level and at present it lies between 10-15 per cent. in Holland. Dutch exporters find the percentage is sometimes increased if the economy of their export market deteriorates while it is higher *for exports* to countries with weak economies. In EFM's view the percentage should be *reduced for the weaker* countries. It points out that for *an exporter signing several con*tracts the cumulative *own-risk* element may be too great.

The Dutch Government is currently drawing up plans to improve export aid.

Spain wins Cuban bus order

BY ROBERT GRAHAM MADRID, April 16.

ENASA, the State-controlled Spanish commercial vehicle and bus manufacturer, *has won an* order to supply 500 buses to Cuba worth $18.75m. The order *also includes an agreement to* supply Spanish technology to the Cubans.

ENASA *has already supplied* some 4,000 of its Pegasus commercial vehicles to Cuba. The *new order is expected to take effect from next year.* Although the company in which the state holding company, INI, has a 67 *per cent. stake, is experiencing* considerable difficulties in sustaining sales in the local Spanish *market it is doing well in export* sales, especially in Latin America.

World Economic Indicators

INDUSTRIAL PRODUCTION 1970=100

	Mar. '78	Feb. '78	Jan. '78	Mar. '77	% change on year
U.S.	134.6	132.6	132.2	128.8	+ 4.5
	Feb. '78	Jan. '78	Dec. '77	Feb. '77	
U.K.	103.8	103.0	102.5	103.2	+ 0.6
Holland	124	125	129	126	− 1.6
Italy	119.8	122.4	113.2	127.5	− 6.0
W. Germany	113.3	108.7	115.6	112.4	+ 0.8
	Jan. '78	Dec. '77	Nov. '77	Jan. '77	
Belgium	106.6	105.5	119.6	108.8	− 2.0
France	127.0	122.0	127.0	129.0	− 1.6
Japan	132.3	130.9	129.8	128.8	+ 2.7

CANTON FAIR

Hopes of Chinese buying surge

BY OUR OWN CORRESPONDENT IN HONG KONG

THIS SESSION of *China's* semi-annual Canton Trade Fair, which opened Saturday, may well prove to be the most important for several years. As the first fair since February's national Peoples' Congress, foreign businessmen will be watching closely to see if the Chinese leadership is capable of carrying out the principles of open trade that the Congress enshrined as national *policy.*

While the fair has since the early 1970s been almost exclusively a forum for sales by *China. Peking's public commit*ment to expanding imports of capital goods from the West and Japan has led to hopes that this session could provide an opportunity for foreign businessmen to negotiate sales of sophisticated equipment.

These hopes were given a boost last week when a Communist controlled newspaper in Hong Kong reported that China would step up purchases of advanced technology and equipment at this fair. The reports said *that the* Chinese will *give priority* to purchases of items dealing with petroleum, *coal power, transport,* steel, non-ferous metals, machine and chemical industries.

Despite this, most veteran traders do not expect a significant upsurge in Chinese buying. *Not only* would that constitute a significant reversal in long-standing practice they argue, but Peking's penchant *for long and* intensive negotiations involving capital equipment effectively *rules out any major import deals* being concluded during the fair's one-month run.

*The likelihood of China mak*ing large purchases at this fair is further reduced by the important *trade agreements* Peking recently signed with Japan and the European Economic Community.

Total transactions at the fair are normally in the $1bn. range. Traditionally, the majority of this total consists of Chinese exports, particularly textiles, foodstuffs, *handicrafts and other light* industrial goods. China's major purchases at the fair normally include *speciality steels—almost* always from Japan and West Germany — and chemical pro*ducts.*

Reflecting China's plans for stepping up iron and steel production to 60m. tons by 1985 one exhibit at this year's fair is reported to be an 840 ton open cast mining excavator which is believed to be the largest piece *of machinery ever displayed at* the fair. Similarly, in line with the increasing emphasis being *placed on coal production* the Chinese are exhibiting what is *described as a gas sensitive coal* detector which detects coal deposits by analysis of coal gas, *together with other items of coal* mining technology and equipment.

At the same time a *large dis*play of electronic exhibits is attributed to the great importance which *the Chinese are now* placing on electronics. Fair officials claim that China plans a *technical breakthrough in the* mass production of large scale integrated circuits by 1980 fol*lowed by a more sophisticated* range by 1985.

With the emphasis of the fair *likely to continue on Chinese* exports, traders will be keenly awaiting indications of both sup*plies and prices. Peking's desire* to expand trade together with a general improvement in the *economy over the past year, has* raised expectations that the chronically tight supply situation *will improve, and price rise over* the last fair will be only moderate. But Chinese trade officials *have already cautioned some* buyers not to expect too much. In particular, they have hinted at *shortages of many textile goods,* as well as agricultural items, including canned foodstuffs.

The shortages, which have been particularly conspicuous during the past two fairs, are thought to stem from Peking's desire to upgrade living stand*ards for its people. Rationing of* foodstuffs like meat, poultry and eggs has been tightened in large *cities over the past two years,* apparently the result of three successive poor harvests. The *new leadership is keen* to improve this situation quickly, both for political reasons and in order to raise worker morale and *spur productivity.*

The resulting export shortages and the reduced foreign exchange earnings they represent have *probably been a major factor in* the delay of Peking's return to the international market place *as an importer of capital equip*ment. And while supplying the domestic market will continue *to take first priority*, an improvement in supplies, however slight, at this fair, would be a strong indication that China is really as committed as it says to expanding trade.

IDB loans top $1.8bn.

BY HUGH O'SHAUGHNESSY

THE Inter-American Development Bank (IDB) approved loans *totalling* $1.81bn. last year, a record figure and 18 per cent. higher than the previous year's total. This is stated in the Bank's annual report *presented to the annual governors' meeting* which starts in Vancouver to-day.

Austria, Finland, France, Italy, the Netherlands and Sweden *joined the ten countries* which were already non-regional members of the Bank while the Bahamas *joined as a regional* member. This brings the Bank's total membership to 41.

More than half the Bank's lending went to three countries, Brazil ($361m.), Argentina ($318m.), and Mexico ($257m.). Loans to El Salvador ($109m.) and Panama ($122m.) were more than four times bigger than in *1976.*

The Bank is currently engaged in the fourth major replenishment of its capital consisting principally of a $4bn. increase in the capital stock of which $344m. *is to be paid in.*

Though the report does not make specific reference to the problem, the Bank is at odds with the U.S. Government on the question of new capital. Washington has sought to condition its new money to the Bank not lending to governments with bad human rights records. The Bank is resisting these conditions.

The Bank reports that its lending policy has been oriented towards the least developed countries and regions of Latin America and last year gave particular emphasis to agriculture, industry, energy and transport.

Saab cars market share

Figures for the market shares *of Saab cars sold in Sweden dur*ing the first three months of this year and 1977 were reversed in the report carried in the Finan*cial Times of April 7.*

On a market, where total first quarter sales declined by 31.5 per cent. compared with the first three months of 1977, Saab sold *8,834 cars against* 8,052. This, however, represented an increase (not a decrease as reported) in Saab's market share from 12.3 per cent. to 14.78 per cent.

Particularly significant for Saab was that sales of its 99 *Combi coupe rose* by 454 units to 3,456 during the first three months and for the first time exceeded sales in Sweden of Volvo's 245 estate car.

Spillers' bakers want to buy shops

By Kevin Done

THREE HUNDRED bakery shop staff, to be made redundant as a result of Spillers' decision to pull out of bread-making, will try to buy shops from the company.

The staff work for the Matthe chain of 35 bakery shops in Norfolk and Suffolk, taken over by the Spillers Group five years ago.

Mr. Frank Pye, Matthé area manager, said yesterday that the shops were "viable going concerns and our customers have been imploring us to do something to make sure that they are retained."

A petition signed by the staff was handed to Mr. Keith Stainton, Conservative MP for Sudbury and Woodbridge, at the week-end. It deplores Spillers' hasty decision to shut the shops within two weeks, saying that this would salvage of a profitable and labour-intensive operation.

Mr. Stainton will seek a meeting to-day with Mr. Michael Vernon, chairman of Spillers.

He said yesterday: "If the company agrees in principle that long-serving employees should be given first refusal when the shops are disposed of, proper financing arrangements can then be considered."

He hopes for the support of Mr. John Silkin, the Minister of Agriculture, whose Department is the sponsoring Ministry for the baking industry.

Mr. Pye said: "Our people are prepared to put in their own money to make sure everything will be a success. We feel we would be acting in the best interests of the communities we serve by continuing the businesses.

Textile trade near balance for first time in four years

BY RHYS DAVID

BRITAIN WAS almost in balance in its textile and clothing trade with the rest of the world last year — for the first time since 1973.

The industry, which has been under severe pressure from imports from low cost countries ended the year with total sales of textiles and clothing overseas falling only £6m. short of imports — a significant improvement on the £143m. and £136m. deficits for 1975 and 1976.

The key to the improvement was a big jump in clothing exports in the last half of last year.

Exports rose from £247m., in the first half to £352m., while imports showed comparatively little movement, rising from £378m. in the first-half to £388m. in the second.

This still left a total deficit for clothing alone of some £168.6m., but by the final quarter the gap between imports and exports had been narrowed to only £9.43m.

In the first quarter it stood at £83m., in the second at £50m., and in the third at £26.7m.

The overall clothing deficit was covered largely by the textile industry's £162m. surplus — an improvement on the £135m. surplus of 1976.

This, however, was still not as high as the surplus the sector was able to earn in 1971, when there was a £191m. surplus at sterling values then prevailing.

The figures published by the Textiles Statistics Bureau in Manchester show that the industry, even before the signing at the end of the year of the latest round of the GATT multi-fibre arrangement governing world textile trade was faring better against overseas competition.

But other figures relating to the industry's performance last year — particularly the last quarter — offer less comfort.

With the recession still making itself felt around the world, British textile industry activity in the final quarter was down 5 per cent. on the same period a year earlier, with the industry's fibre consumption 14 per cent. down.

Output figures for two important textile sectors—man-made fibres and cotton and allied textiles—for the first two months of the present year also point to a deteriorating situation.

Output by man-made fibre producers was down 8 per cent. in January and February on the same period last year. In cotton textiles, yarn and woven cloth production were both down on 1977 levels.

The industry is placing its hopes for the rest of 1978 on increased consumer spending on clothing, signs of which have been apparent for some time.

Against the trend generally for consumer spending, clothing expenditure was up 5 per cent. in the second half of last year on the first six months.

A furthur boost is expected because of the increases in take-home pay resulting from the Budget.

Stocks at retail level are thought to be relatively low so, it is hoped, increased demand will result in a rise in ordering from textile suppliers.

The danger remains that stronger home demand could be fuelled by imports, despite new controls now in operation.

There is concern, too, that the stronger pound may also make exporting more difficult this year.

Warnings have already been given by Yorkshire's wool-textile manufacturers.

U.K. TRADE IN TEXTILES AND CLOTHING

	1973 £m.	1974 £m.	1975 £m.	1976 £m.	1977 £m.
IMPORTS					
Textiles	556	750	732	975	1,196
Clothing	333	402	505	683	767
EXPORTS					
Textiles	707	892	828	1,110	1,359
Clothing	179	230	265	412	598
TRADE BALANCE					
Textiles	+151	+141	+ 96	+135	+162
Clothing	−154	−172	−240	−271	−168
TOTAL	− 3	− 31	−144	−136	− 6

Talks 'will be held with CBI before pay clause penalty'

BY JOHN ELLIOTT, INDUSTRIAL EDITOR

THE GOVERNMENT has agreed to consult the Confederation of British Industry before it penalises any company as a result of the pay clauses now being inserted in Government contracts.

Mr. John Greenborough, CBI president, says this to-day in a letter to confederation members.

His letter is accompanied by an explanatory memorandum setting out how companies and their subcontractors are expected to abide by the Goverenment's pay limits or risk losing their contracts.

The event marks the end of two and a-half months' uncertainty among companies since the Government first announced at the beginning of February that it intended to insert pay clauses in its contracts.

Since then the clauses have been substantially modified but they are still described as "very clumsy" by Mr. Greenborough.

They are not being recommended by the Confederation, which has decided to leave it to an individual company "to exercise its own commercial judgment in deciding whether or not to sign a Government contract containing the redrafted clauses."

The Government has also agreed to discuss with the CBI any application of the clauses in future phases of pay restraint.

Because of this, Mr. Greenborough's letter asks companies to tell the confederation about their experiences in dealing with the Government agencies and operating the clauses.

Under the terms of the clauses, failure by contractors to abide by the pay limits, or to undertake other responsibilities, could lead the Government either to withhold payment of certain labour cost increases in contracts, or terminate contracts.

Chrysler to launch leisure vehicle

By Terry Dodsworth, Motor Industry Correspondent

CHRYSLER U.K. is moving into the market for multi-purpose lesiure vehicles popularised by products such as the Range Rover, with the launch of the Matra Rancho in Britain.

The Rancho, assembled by the Matra aerospace group from Chrysler Alpine and Simca 1100 components, will go on sale in Britain at £5,560.

The front part of the body is constructed of sheet metal and the rear of reinforced polyester on a metal frame. There is a bench rear seat, with access from two passenger doors or a split tailgate. It is driven by the 1442 cc Alpine engine.

The Rancho has had a considerable impact in France since it was launched a year ago. Its progress is being watched with interest by other European manufacturers as a guide to whether Europe will follow the American trend towards roomy leisure vehicles.

In Britain, the launch of the Matra comes as a time when the Leyland range of Land-Rovers and Range Rovers face greater competition.

The Jeep range of utility and lesiure vehicles was launched a few months ago and the Japanese Daihatsu range is also being distributed in Britain.

New air row likely

BY ARTHUR SANDLES

BRITISH determination to move trans-Atlantic air traffic involving Canada from Heathrow to Gatwick airport looks like provoking another major air row—this time, between the British Government and the Canadians.

Yesterday, Air Canada produced a four-page document rejecting the British "provisional decision" to move the airline to Gatwick. The argument follows similar disputes with the U.S., involving reciprocal rights and culminating in a delayed start for the Braniff Airline service from Texas to London. Braniff was finally forced to use Gatwick, but the U.K. had to accept a fare structure it did not entirely support.

State building industry plan opposed

A SURVEY by Market and Opinion Research International showed that 70 per cent. of those interviewed opposed the Labour Party plan for nationalisation of building and construction companies said the Campaign against Building Industry Nationalisation yesterday.

Only 12 per cent. were in favour. Of those normally voting Labour 57 per cent. opposed the party's proposals and 20 per cent. positively supported them.

Opposition to nationalisation of the industry, employing nearly 2m., was stronger among those working in the two sectors of the industry, with 85 per cent. against, 3 per cent. undecided, and 12 per cent. supporting.

Workers who stated they normally voted Labour rejected the nationalisation plan by 71 per cent.

Of members of the public 62 per cent. thought nationalisation would lower efficiency and profitability. Of those in the industry, 74 per cent. said it would be less efficient and 77 per cent. less profitable.

Esso supports Fellowship

THE ESSO Petroleum Company is to contribute to the setting-up of a Royal Society Esso Research Fellowship in physical and applied sciences.

The fellowship will form part of the Society's scheme of establishing small research groups to aid young scientists hit by present cuts in university science departments.

SHIPPING REPORT

Carrier sales are picking up

BY IAN HARGREAVES, SHIPPING CORRESPONDENT

PRICES FOR second-hand dry cargo and bulk carrier tonnage have fallen sufficiently to draw buyers back in to the market and brokers note a revival of interest.

Most purchases are Far Eastern, with China and India building up second-hand fleets. There has also been inquiries from Greece, India, Hong Kong, Korea and Italy.

Some sales are from owners with liquitidy problems seeking a sale and time-charter back arrangement with a stronger owner or financial institution. Banks report that they are being kept busy with this type of inquiry.

Egger Forrester, broker, says that most sale and purchase interest centres on modern, geared vessels up to 30,000 deadweight tons and on gearless vessels in the ten-year age bracket over 40,000 dwt.

A pair of Hitachi-built 60,000 tonners at relatively favourable prices were sold, with credit terms believed to span 15 years. The Organisation for Economic Co-operation and Development guidelines, to which Japan subscribes, limit credit to seven years.

Most tanker sales continue to be to the breakers' yards although occasional sales of serviceable vessels illustrate plummeting values.

The Malmros Mariner, a 372,000 tonner built in 1975, sold for $22m. to a Far East buyer. This represents a 25 per cent. drop in value for the class of ship within six months.

The tanker chartering market continues its grim course. Rates weakened this week to between worldscale 18 to 18.5 for VLCCs out of the Gulf. John I. Jacobs says that there are now 5.2m. tons of large crude carriers waiting in the Gulf loading area and 12 more large ships on the way.

HOME NEWS

Callaghan objection upsets borough's delegates

By Anthony Moreton, Regional Affairs Editor

THE PRIME MINISTER has upset an all-party delegation of councillors and officials from Sunderland by refusing to meet them to discuss the town's economic problems.

Mr. Callaghan told Councillor Len Harper, leader of the council, last week that a meeting would create a precedent.

But two days afterwards, Liverpool council received a letter saying he would discuss the Merseyside city's unemployment problems with its delegation.

Sunderland will now have to be content with seeing three Cabinet Ministers and Mrs. Margaret Thatcher.

Mr. Harper questioned whether the Prime Minister considered Liverpool's unemployment problems to be greater than Sunderlands. "While Mr. Callaghan can't perform miracles, we feel that acceptance of our delegation would be recognition of the seriousness of our situation."

Studies

Sunderland now has about 14 per cent. unemployment, compared with about 12 per cent. in Liverpool.

The borough's studies show that a pick-up in economic activity benefits Liverpool, Irvine—the new town on the west of Scotland—and Sunderland, last.

The council has drawn up a long report on the local economy looking at two main aspects—general industry and the port. If the Prime Minister still refuses to see them during their three-day visit, Mr. Harper plans to go to 10 Downing Street and hand in the report.

The report urges more attention to small firms, especially the very small, two- and three-man firm, where the need for venture capital is greatest. It also calls for an extension of development area status.

Sunderland is in a special development area, where government grants are slightly higher than in development areas. It wants a further category designated where grants would be higher.

Engineers' body has registration plan

BY DAVID CHURCHILL

THE COUNCIL for Engineering Institutions, the umbrella body representing 320,000 British professional engineers, has decided not to support the creation of a new licensing body for engineers accountable to Parliament.

In unpublished evidence to the Finniston Inquiry into the engineering profession, the council argues the case that it should itself be allowed to become the main organisation through which registration is administered, rather than any specially created body.

This view is being strongly contested by one of the council's main member institutions—the Institution of Electrical Engineers. In its evidence, submitted separately to the Finniston Inquiry this group supported statutory registration and licensing to regulate the engineering profession in a way similar to other U.K. professions.

Statutory registration means that engineers would have their standards of qualification and rules of professional conduct set and administered by a publicly accountable body created by Act of Parliament.

The electrical engineers' institution is to hold a special meeting in London next week to discuss the licensing systems of Canada, the U.S. and South Africa to see whether such systems could be applied to the U.K.

More Home News, Page 9

The attitude taken by the umbrella organisation, however, reflects the concern among a number of small member institutions that a new outside body could threaten their existence.

In its evidence, the council points out that it is already setting up a common register covering essential information about engineers. It believes that this form of registration is an efficient, economical and satisfactory method to use.

Such a registration procedure, it argues, would maintain and enforce a code of conduct for the protection of the public and also ensure that engineers belonged to a qualifying chartered institution.

The council believes that formal statutory recognition of its role as a registration body by the Government would have the advantage of establishing engineers' credibility, especially in overseas work.

It would also help establish in the public's mind the distinction between the professionally qualified chartered engineer and the general worker in industry.

The electrical engineers, however, maintain that an independent registration authority, coupled with licensing, would be considerably more effective in enhancing the status of professional engineers.

They would like to see a statutory body set up composed mainly of professional engineers acting in a personal capacity on behalf of the whole profession

Scots poll gives lead to Labour

By Philip Rawstorne

LABOUR would hold all its 41 seats in Scotland in an immediate General Election, an opinion poll suggested yesterday.

The poll by MORI for the television programme Weekend World, indicated that Conservatives would regain six seats lost to Scottish Nationalists in 1974 and capture one from the Liberals.

Support for the Nationalists was waning, according to the poll. But the party was still expected to retain a major influence on Government policy in Scotland.

Of those interviewed 41 per cent. said they would vote Labour in the General Election, 30 per cent. Tory, 27 per cent. SNP, and only 2 per cent. Liberal.

On virtually all major political issues Labour has established a substantial popular lead, the poll shows.

Sixty-three per cent. said they would vote for the Government devolution proposals in the referendum.

Background to Anglo-Irish co-operation plans

Pact could be political football

BY GILES MERRITT IN DUBLIN

IF THE ANGLO-IRISH economic co-operation pact now travelling through Whitehall to No. 10 Downing Street is approved and implemented without reservation, it will be an important blueprint for industrial development both in Ulster and the Irish Republic. But it is a fairly big "if."

The joint U.K.-Irish document, which will probably be announced next month, stems from September's meeting in London between Mr. Callaghan and Mr. Jack Lynch, the Republic's Prime Minister. But its preparation has been paralleled since the beginning of this year by a sharp worsening of Anglo-Irish relations.

Open disagreement over the future of Ulster now risks turning the economic pact into a political football which the Unionists will be the first to kick.

It is just 13 years since a major cross-border initiative along similar lines was last tried. Early in 1965, Mr. Sean Lemass, then the Irish Premier, made an historic and symbolic trip North to seal a co-operation deal with Capt. Terence O'Neill, who headed the Stormont Government.

The aim was to reverse the industrial and commercial habits of almost half a century.

The main result, it is often said, was the precipitate fall from power of Capt. O'Neill in 1969. Talking cross-border sense in Ireland can be akin to talking with the enemy.

With the start of the Ulster troubles in 1969, the initiative unquestionably became a dead-letter.

There is nevertheless widespread recognition in Government and industry on both sides of the border that the continued failure to pool resources, combine markets and seek economies of scale has had a damaging effect.

Even though both parts of Ireland are likely to remain fierce rivals, it is beginning to dawn on each that their general lack of co-operation can discourage investment.

In the last three years, private industry has increasingly urged greater cross-border links, while the EEC Commission has lately been adding its weight to this demand.

By June 1976, the CBI in Ulster had progressed to putting detailed proposals in a 30-page report to the British Government. This spelt out the advantages to Ulster of developing EEC-backed cross-border industrial projects and concluded that the vital task of broadening Ulster's industrial base could be achieved by promoting joint North-South ventures.

Most important of all, the EEC Commission had by 1976 started to take an active interest. It paid half of a £70,000 study commissioned last year by London and Dublin into communications in the Derry-Donegal border area, and is expected to back some of that study's proposals with hard cash, such as another bridge over the River Foyle.

A North-South rail improvement scheme published a month ago expects half the funds to come from Brussels. But these growing demands for North-South co-operation should not disguise the fact that at present the links are tenuous to a degree that is barely credible.

Of all imports into the 26 counties of the Republic, only 4 per cent. or so originate in Northern Ireland. Irish exports to the North represent about 10 per cent. of the total, but a high proportion of that figure is made up of goods being shipped to Scotland via Ulster.

Such is the tradition of separate development that industry on both sides of the border looks to British and even European manufacturers. Cynics say the straightest commercial line between Belfast and Dublin goes through Liverpool.

Transport costs can add up to 20 per cent. to the unit cost of goods made in offshore Ireland, while there is also concern that the two economies should rationalise their industries. The alternative is wasteful duplication.

LABOUR NEWS

PHILIP BASSETT DISCUSSES THE DEBATE ON WORKERS' CONTROL

A long-term future

MR. HUGH SCANLON, president of the Amalgamated Union of Engineering Workers, said in 1968 in the first pamphlet marking the birth of the Institute for Workers' Control that shop stewards' interest in the introduction of new machines or output levels as well as wages and hours was a "radical move away from the defensive mentality of the past."

It is a measure of how far the concept of workers' control has come that 10 years later, 2,000 workers at British Leyland's Speke car plant in Liverpool should undertake a bitter 16-week strike on exactly the issue of the introduction of new output levels.

The twelfth conference of the Institute for Workers' Control which took place at Sheffield University at the week-end marked the movement's tenth anniversary.

The institute was set up in April 1968 as an uneasy alliance of workers and academics in a direct response to a growing need among workers to have more say in their jobs.

Its aims remain simple: workers' control of the means of production, ownership and exchange.

Cohesive

Since then it has developed, through concepts like shop stewards' combined committees and the principle of opening companies' books, into a kind of workers' equivalent of the Government think tank.

Delegates may not be going back to work to-day to put ideas heard at the conference straight into practice, but in another 10 years' time this week-end's "radical moves" may be the norm.

The institute, though small—with some 400 direct members—is a remarkably cohesive body for an organisation that mirrors the classic tension of the Labour Party between intellectuals and workers.

It has survived take-over bids by the extreme Left and attacks from the extreme Right.

But a split exists in its ranks, between those who believe in worker-participation and those who believe in worker control.

Participation is seen by its critics as workers being invited to management Board rooms to be told there what is going on rather than on the shop floor.

The Leyland commitment to participation, for example, was attacked at the conference as a management idea dispensed with when it came to the Speke closure.

But its supporters pointed out that Leyland stewards had far more knowledge of company proposals than, say, their counterparts in Ford would have done.

Worker control, in the form of the Lucas or Vickers stewards' combines, for example, where workers have in their plans control of their own work and products, is the aims of the movement.

A deeper split than this exists outside the movement, illustrated at its most extreme by Mr. Arthur Scargill, the Yorkshire president of the National Union of Mineworkers.

He told the conference delegates on Saturday that workers' control was "the academic's dream of Utopia and the apologist's road to Socialism."

There is suspicion of workers' control in the form of combined committees, for example, from managements, which see them as a fundamental political challenge to the way industry operates, and from trade unions because the combines cut across boundaries traditionally guarded by particular unions.

Mr. Bill Jones, the institute chairman and former executive member of the Transport and General Workers Union, admits the conflict but sees the combine as the way forward.

Long-term

TGWU line operators at Dagenham may know what their opposite number at Halewood are doing through the union, but only through a Ford combine could all the workers at both plants act together if necessary."

Combines, though, are long-term projects. Great things are hoped for by the institute from the Vickers combine. But after six years' hard work making a strong, well-run organisation, the Lucas combine was told last month that 1,700 jobs were to go on Merseyside.

The institute is an organisation which knows its effects can only be long term. The Bullock report on worker democracy is something few delegates could have hoped for 10 years ago.

A development such as Bullock, though, was something implicit in the founding of the movement.

An institute special conference on the Bullock report voted narrowly to reject it in its present form.

This was because, while it was a step in the right direction according to Mr. Jones, the institute was not happy about the formula for getting workers on to company Boards.

It suspected, in any case, that the report could quickly end up in the Government's waste-paper basket.

The institute's future is again likely to be one of long-term achievements than short-term results.

But it is facing up to the present unemployment figures by joining forces with community action groups to discuss how best to fight for the right to work.

There is support for the institute. Mr. Moss Evans, new general secretary of the TGWU, said in a message to the conference that more positive involvement of union representatives in corporate planning was needed.

"There is a need for industrial democracy to make industry socially respectable—to ensure management does not treat labour as just another unit cost."

Workers' control is an old idea. Mr. Scanlon said 10 years ago that it could realise the socialist aspirations of a society geared not to the exploitation of man by man, but to simple administration by free men of material abundance.

More than a century earlier William Morris put it in a phrase used as the conference watchword: "No man is good enough to be another man's master." The institute has succeeded in giving that old statement new and ingenious form.

Swan Hunter clerks seek pay increase

THE PAY AGREEMENT which Swan Hunter hoped would end inter-union pay rivalry at its five Tyneside shipyards has encountered new friction. Draughtsmen and clerical workers have submitted a claim to be included in the agreement, which gives craftsmen £83 and ancillary workers £71 a week.

They say the deal, approved by the Government three days ago, leaves them £12 a week behind boilermakers and outfitting trades.

Teachers threaten new contract sanctions

A SERIES of sanctions was threatened yesterday by the National Association of Schoolmasters / Union of Women Teachers, the second largest teacher union, in a contracts dispute with the local authorities.

A week-end meeting of its executive decided that from May 8 its 100,000 members will be instructed to stop carrying out voluntary after-school activities.

These will include parents', staff and departmental meetings, speech evenings and governors' meetings.

Mr. Terry Casey, general secretary of the union, made it clear that school meals and voluntary activities organised by the teachers themselves will not be affected. This includes inter-sports or club activities.

The new move by the union represents a tougher line in its dispute with the local authorities as to what part of the teachers' day represents a contractual obligation and what are voluntary activities.

The union has been trying to get each of the 104 local education authorities in England and Wales to give a written undertaking that after-school activities by teachers are purely voluntary.

Pit rescue men demand better bonus

By Our Sheffield Correspondent

PIT RESCUE brigades in Yorkshire, the National Coal Board's biggest coalfield, are dissatisfied with their bonus allocation.

They claim that it is similar to that earned by typists—about 40 per cent. of the area's average pay. If the offer is not improved they threaten to call on the field's 66,000 miners to take action.

Mr. Athur Scargill, their leader, said yesterday that he hoped to negotiate on their behalf.

This week in Parliament

TO-DAY

COMMONS — Conclusion of Budget debate. Judicature (Northern Ireland) Bill (Lords), second reading.

LORDS—Debate on preserving the Ridgeway. Debate on problems of widows. Short debate on review of Children and Young Persons Act.

SELECT COMMITTEES—Expenditure: General Sub-committee. Subject: Central Office of Information. Witnesses: Advisory Committee on Advertising. (4.15 p.m. Room 8.) **Expenditure:** Education, Arts and Home Office Sub-committee. Subject: Provision for museums and libraries. Witnesses: Department of Education and Science. (4.15 p.m. Room 13.) **Overseas Development.** Subject: Renegotiation of the Lomé Convention. Witness: Mr. Leslie Huckfield, Under-Secretary for Industry. (4.30 p.m. Room 16.) **Public Accounts.** Subjects: Job Creation and General Butter Subsidy. Witnesses: Department of Employment, Manpower Services Commission, Intervention Board for Agricultural Produce. (5 p.m. Room 16.)

TO-MORROW

COMMONS—Wales Bill, committee stage.

LORDS—Scotland Bill, committee stage. Housing (Financial Provisions) Bill, report stage. EEC business on various definitions of treaties Orders.

SELECT COMMITTEES—Expenditure, General Sub-committee. Subject: Response to White Paper on the Civil Services. Witness: Lord Peart. (4.00 p.m. Room 6)

WEDNESDAY

COMMONS—Wales Bill, committee stage.

LORDS—Scotland Bill, committee stage. Import of Live Fish Bill, report stage. Aviation Security Fund Regulations 1978.

SELECT COMMITTEES—Nationalised Industries. Sub-committee B. Subject: The electricity supply industry, reorganisation. Witnesses: Electricity Council. (10.45 a.m. Room 8.) **Expenditure:** Social Services and Employment Sub-Committee. Subject: Employment and training in the new unemployment situation. Witness: Mr. Edward Heath, chairman of the all-party lobby on youth affairs. (3.00 p.m. Room 8.) **Public Accounts Committee.** Subject: Appropriation accounts. Witnesses: Department of Energy, Scottish Development Department. (4.00 p.m. Room 16.) **European Legislation.** Subject: Oil stocks. Witness: Mr. A. Wedgwood Benn, Energy Secretary. (4.15 p.m. Room 15.) **Overseas Development.** Subject: Renegotiation of Lomé Convention. Witnesses: European Investment Bank. (4.30 p.m. Room 6.) **Race Relations and Immigration.** Subject: Effects on EEC membership of race relations and immigration. Witnesses: Home Office officials. (4.30 p.m. Room 14.) **Expenditure** Environment Sub-committee. Subject: Planning procedures. Witness: Mr. Reg Freeson, Housing Minister. (4.00 p.m. Room 5.)

THURSDAY

COMMONS—Supply day debate on National Health Service. Medical Bill (Lords) remaining stages.

LORDS—Debate on defence White Paper.

FRIDAY

COMMONS—Private members' Bills.

هكذا من الأصل

Businessman's Diary

U.K. TRADE FAIRS AND EXHIBITIONS

Date	Title	Venue
Apr. 18—21	Storage, Handling & Distribution Exhibition	Olympia
Apr. 18—22	Autoquip '78 Exhibition	Wembley Conf. Centre
Apr. 20—28	Metalworking '78 Exhibition	Nat. Exbn. Centre, B'ham.
Apr. 24—28	Int. Fire Security Exhibition & Conference	Olympia
Apr. 24—28	Subcontracting Industries Exhibition	Nat. Exbn. Centre, B'ham.
Apr. 24—29	Bristol Boat Show	Exhibition Centre
Apr. 30—May 5	Concrete Materials and Techniques Exhibition	Wembley Conf. Centre
Apr. 30—May 6	Int. Machine Tool and Production Eng. Exbn.	Nat. Exbn. Centre, B'ham.
May 2—5	Int. Cleaning and Maintenance Exhibition	Nat. Exbn. Centre, B'ham.
May 7—10	Incentive, Marketing and Sales Promotion Exbn. and Conference	Metropole Centre, Brighton
May 8—12	Int. Welding Engineering Exbn. and Conf.	Harrogate
May 9—12	International Diecasting Exhibition	Olympia
May 9—11	European Computing Congress and Exbn.	Wembley Conf. Centre
May 16—19	Specibuild (building products) Conf. and Exbn.	Olympia

OVERSEAS TRADE FAIRS AND EXHIBITIONS

Apr. 21—24	Portuguese Fabrics and Clothing Exbn.	Lisbon
Apr. 24—27	Solar Technology Exhibition and Conference	Bahrain
Apr. 27—May 5	Textile Machinery Exhibition	Greenville, U.S.
Apr. 28—May 4	German Agricultural Show	Frankfurt
Apr. 29—May 15	International Trade Fair	Brussels
Apr. 29—May 15	International Paris Trade Fair	Paris
May 6—11	International Book Festival	Paris
May 9—11	Compec Europe	Brussels
May 9—14	Int. Surface Treatment and Finishing Exbn.	Paris
May 13—20	Woodworking Machine Exhibition	Milan
May 16—20	Welding Fair	Zagreb
May 19—27	Public Works Exhibition	Paris

BUSINESS AND MANAGEMENT CONFERENCES

Apr. 19	Henley Centre for Forecasting: The Budget	Carlton Tower Hotel, S.W.1
Apr. 19	London Chamber of Commerce and Industry: Agri-Business in the Mid. East & North Africa	69, Cannon St., E.C.4
Apr. 20	McGraw-Hill: Managerial Work—Its Demands and Choices	Royal Garden Hotel, W.8
Apr. 20	London Chamber of Commerce and Industry: Trade Mission to South Africa reports back	69 Cannon St., E.C.4
Apr. 20—21	Legal Studies & Services: Claims Against Carriers—Procedures and Remedies	Hilton Hotel, W.1
Apr. 21	Leeds University: The New United Kingdom Patent Law	Leeds
Apr. 23—24	Institute of Grocery Distribution: Annual Convention	Hotel Metropole, Brighton
Apr. 23—28	Inbucon: Improving Industrial Relations	Selsdon, Surrey
Apr. 23—28	Centre for International Briefing: Working Effectively in Nigeria	Farnham Castle, Surrey
Apr. 25	BOTB/CBI: Opening an office in Japan	CBI, London
Apr. 26	British Overseas Trade Board: Exporting to Australia	Inn on the Park Hotel, W.1
Apr. 26—27	European Study Conferences: Direction and management of the smaller private company	Kensington Palace Hotel, W.8
Apr. 27	Soc. for Long Range Planning: Introduction to Corporate Planning	SLRP, London
Apr. 27	British Council of Productivity Associations: Provision and disclosure of company information	London Hilton, W.1
Apr. 27	London Business School: Leases and how to value them	Sussex Place, W.1
Apr. 27—28	Council for Energy Studies: World Energy Economies Conference	Inn on the Park, W.1
Apr. 27—28	Oyez: Advertising Association Conference	The Brighton Centre
May 2	CBI/COMET: U.K.-Moroccan trade potential	CBI, London
May 3—5	Institute of Metal Finishing: Annual Technical Conference	Palace Hotel, Torquay
May 4	British Institute of Management: Management of Product Design and Innovation	Royal Lancaster Hotel, W.2
May 6—9	National Chamber of Trade: Annual Conference	Llandudno
May 7—13	Keith Shipton Developments: Risk Management in Practice	Tower Hotel, E.1
May 9	Oyez: International Transfer Pricing Policies	London Press Centre, E.C.4
May 9—10	Zinc Development Association: Die Casting Conference	London Hilton, W.1
May 9—12	British Association for Commercial and Industrial Education: Job Analysis	BACIE Train. Centre, London
May 10	Oyez: Tax and Property	Hotel Inter-Continental, W.1
May 10—12	Advanced Management Research (AMR): Management Skills for Women	Churchill Hotel, W.1
May 15—16	Financial Times: The North Sea and its Economic Impact	Grosvenor House W.1
May 23—26	Marchmont: International Tax Planning Conf.	Barbados
May 24	Imperial College: International Finance	London, S.W.7.
May 25—26	European Study Conferences: Double Taxation—Taking Advantage of International Agreements	Old Government House Hotel, Guernsey

WEEK'S FINANCIAL DIARY

The following is a record of the principal business and financial engagements during the week. The Board meetings are mainly for the purpose of considering dividends and official indications are not always available whether dividends concerned are interims or finals. The sub-divisions shown below are based mainly on last year's timetable.

TO-DAY

COMPANY MEETINGS—
Comm. Union Ass., Queens Rooms, Baltic Exchange, St. Mary Axe, E.C.3, 12
Davis and Metcalfe, Injector Works, Romiley, Nr. Stockport, 11.30
Weber, 63, Piccadilly, W., 4

BOARD MEETINGS—
Finals:
Blackwood Hodge
Currys
Hoveringham
Jersey Electricity
London United Invs.
Newarthill
Reed Executive
Revertex Chemicals
Rugby Portland Cement
Interims:
Change Wares
Equity Inc. Trust

DIVIDEND & INTEREST PAYMENTS—
Ayer Hitam Tin Dredging Malaysia Berhad 150 cts.
Clark (Matthew) and Sons 1.6p
Edinburgh American Assets 1.1p
Fitzwilton 1.5p

TO-MORROW

COMPANY MEETING—
Vantona Group, Midland Hotel, Manchester, 2.45

BOARD MEETINGS—
Finals:
B.S.G. Intl.
Compton (J.) and Webb
Cosalt
Estates and Gen. Invs.
Hawker Siddeley
Helene of London
Higgs and Hill
Home Charm
Miller (F.) (Textiles)
North (M. F.)
Provident Life Association of London
Wadkin
Interims:
Beradin Rubber Estates
Brotherhood (P.)
Dowding and Mills
Walker and Homer

DIVIDEND & INTEREST PAYMENTS—
Davies and Metcalfe A 0.8724p
Gedong Invs. 1.381p
Myddleton Hotels 2.64p
Norfolk Capital Group 0.4p
South British Insurance 10 cts.

WEDNESDAY, APRIL 19

COMPANY MEETINGS—
Imperial Chemical Inds., Dorchester, Park Lane, W., 11
Plantation Holdings, Guildhall House, E.C., 12
Rea Brothers, Winchester House, E.C., 12
Steetley, Connaught Rooms, W.C., 12

BOARD MEETINGS—
Finals:
Bestobell
Brocks Group
Burmah Oil
Callendar (George M.)
Delta Metal
Garnar Scotblair
Horizon Midlands
Hoskins and Horton
Kuala Selangor Rubber
Moorhouse and Brook
Menzies (John)
Royco
Securities Trust of Scotland
United Carriers
Viking Resources Trust
Wade Potteries
Weeks Associates
Interims:
Long and Hambly
Low (William)
M.T.D. (Mangula)

DIVIDEND & INTEREST PAYMENTS—
Beaconsfield 6¼pcBds. Red. 25/10/78 3⅛pc
Blackpool 10pcBds. Red. 19/4/78 £5.1644
Castlepoint 9¼pcBds. Red. 15/10/80 4¹¹⁄₁₆pc
Central Regional Council 10pcBds. Red. 19/4/78 £5.1644
Coventry 6¼pcBds. Red. 25/10/78 3⅛pc
Cumbernauld and Kilsyth 10pcBds. Red. 19/4/78 £5.1644
Cyngor Dosbarth Dwyfor 10pcBds. Red. 19/4/78 £5.1644
Derwentside 10pcBds. Red. 19/4/78 £5.1644
Ellesmere Port and Neston 6¼pcBds. Red. 25/10/78 3⅛pc
Gateshead 7¾pcBds. Red. 17/10/79 3¹⁵⁄₁₆pc
Grampian 10pcBds. Red. 19/4/78 £5.1644
Great Yarmouth 9¼pcBds. Red. 15/10/80 4¹¹⁄₁₆pc
Hackney 9¼pcBds. Red. 15/10/80 4¹¹⁄₁₆pc
Isle of Wight 6¼pcBds. Red. 25/10/78 3⅛pc
Kirkcaldy 6¼pcBds. Red. 25/10/78 3⅛pc
Kyle and Carrick 10pcBds. Red. 19/4/78 £5.1644
Lancaster 10pcBds. Red. 19/4/78 £5.1644
Lincolnshire 10pcBds. Red. 19/4/78 £5.1644
Meirionnydd 10pcBds. Red. 19/4/78 £5.1644
Mendip 10pcBds. Red. 19/4/78 £5.1644
Movgashel Db. 3¼pc
Newbury 7¼pcBds. Red. 17/10/79 3⁵⁄₈pc
Newham 11¼pcBds. Red. 19/4/78 £5.5634
North East Derbyshire 6¼pcBds. Red. 25/10/78 3⅛pc
Northamptonshire 6¼pcBds. Red. 25/10/78 3⅛pc
Nottingham 7¾pcBds. Red. 17/10/79 3¹⁵⁄₁₆pc
Nottinghamshire 10pcBds. Red. 19/4/78 £5.1644
Preseli 10pcBds. Red. 19/4/78 £5.1644
Rea Brothers 0.9278p
Salford 6¼pcBds. Red. 25/10/78 3⅛pc
Salisbury 10pcBds. Red. 19/4/78 £5.1644, 6¼pcBds. Red. 25/10/78 3⅛pc
Scunthorpe 6¼pcBds. Red. 25/10/78 3⅛pc
Setton 6¼pcBds. Red. 25/10/78 3⅛pc
South Bedfordshire 6¼pcBds. Red. 25/10/78 3⅛pc
South Derbyshire 6¼pcBds. Red. 25/10/78 3⅛pc
South Wight 10pcBds. Red. 19/4/78 £5.1644
Surrey 10pcBds. Red. 19/4/78 £5.1644
Swansea 10pcBds. Red. 19/4/78 £5.1644
Telefusion A 0.605p
Uttlesford 10pcBds. Red. 19/4/78 £5.1644
West Wiltshire 10pcBds. Red. 19/4/78 £5.1644
Wigan 6¼pcBds. Red. 25/10/78 3⅛pc
Wimborne 10pcBds. Red. 19/4/78 £5.1644
Woking 6¼pcBds. Red. 25/10/78 3⅛pc. 7¼pcBds. Red. 17/10/79 3⁵⁄₈pc
Woodspring 10pcBds. Red. 19/4/78 £5.1644
Worthing 7¼pcBds. Red. 17/10/79 3⁵⁄₈pc

THURSDAY, APRIL 20

COMPANY MEETINGS—
Blagden and Noakes, Connaught Rooms, W.C., 12
City and Foreign Inv., 117, Old Broad Street, E.C., 2.30
Hall Eng., Dorchester Hotel, W., 12
Rolls-Royce, Churchill Hotel, Portman Square, 12
Tate of Leeds, Leeds, 12
Turner and Newall, Manchester, 12
Woodhouse and Rixon, Royal Victoria Hotel, Sheffield, 11.45
Yorkshire Chemicals, Kirstall Road, Leeds, 12
Yule Catto, 1, New Bond Street, W., 12

BOARD MEETINGS—
Finals:
City Hotels, Clayton Son, Clive Discount, Coral Leisure, Dunlop, Hawker Marris, Hestair, Holyrood Rbr, Hongkong (Selangor) Rbr, Lead Inds, Leslie and Godwin, London and Holywood Tst, London and Prov. Tst, Mowlem (J.), Owen Owen, Perry (H.) Motors, Scottish Mort. and Tst, Selection Tst.
Interims:
Free State Geduld
Free State Saaiplaas
President Brand
President Steyn
Welkom Gold
Western Holdings

DIVIDEND & INTEREST PAYMENTS—
Anglo-American Coal 40 cts.
Blaby 12pcBds. Red. 16/4/80 6pc
Calderdale 12pcBds. Red. 16/4/80 6pc
Carrington Viyella 1.50505p
Enfield 12pcBds. Red. 16/4/80 6pc
Firestone Tire and Rubber 27.5 cts.
Intl. Westminster Bank Floating Rate Capital Notes 40.13p
Ipswich 12pcBds. Red. 16/4/80 6pc
Lambeth 11¼pcBds. Red. 18/4/79 5⁵⁄₈pc
Medway 12pcBds. Red. 16/4/80 6pc
Quaker Oats 26 cts.
Richmondshire 11¼pcBds. Red. 18/4/79 5⁵⁄₈pc
South Yorkshire 11¼pcBds. Red. 18/4/79 5⁵⁄₈pc
South Yorkshire Passenger Transport Executive 7¼pcBds. Red. 17/10/79 3⁵⁄₈pc
Steetley 3.965198p. 4⅕pcPf. 1.575pc
Union Bank of Finland Floating Rate Capital Notes 39.81 cts.
Union Steel Corp. (of South Africa) 2.5 cts. 8Pf. 4pc
Waltham Forest 11¼pcBds. Red. 18/4/79 5⁵⁄₈pc
Wells Fargo 35 cts.
West Hampshire Water Ord. A (10pc Max.) 3.5pc. B (fmly. 4.9pc Max.) 2.45pc. 3.5pc (fmly. 5pc) Ord. 1.75pc

FRIDAY, APRIL 21

COMPANY MEETINGS—
Carliol Invest. Trust, Newcastle-upon-Tyne, 12.15
Invest. Trust of Guernsey, St. Peter Port, 2.30
Inveresk, Connaught Rooms, 12
Tyneside Invest. Trust, Newcastle-upon-Tyne, 12.30
Woolworth (F. W.), Connaught Rooms, W.C., 11.45

BOARD MEETINGS—
Finals:
Liberty, Monmore Mfg, Pearson (S.), Pearson Longman, Southern Construction, Tehidy Minerals, Youghal Carpets.
Interims:
Hepworth (J.)
Lowland Investment

DIVIDEND & INTEREST PAYMENTS—
Bond Street Fabrics 1.85p
Buckinghamshire 10¼pc Variable Rate Red. 1982 £3.1107
Crest Nicholson 2.3634p (inc. Supply Distbn. of 0.035p o a yr. ended 31.10/76)
Downing (G. H.) 5p
Inveresk 3.4892p
Macallan-Glenlivet 2p
Morgan (J. P.) Inc. 55 cts. Int. Dep. Receipts to Br. Rep. 1.5 25 and 100 Com. Shares issued by Morgan Gtd. Trust Co. of New York 55 cts.
Provident Financial 3.2608p
Pullman (R. and J.) 1.81p
Ricardo and Co. Engineers (1927) 1.15p
Wiggins Construct. 0.77p

SATURDAY, APRIL 22

DIVIDEND & INTEREST PAYMENTS—
Agricultural Mtg. Corp. 12¼pcBds. Red. 25/4/80 6⅛pc
Anglo American Corp. of South Africa Unsec. Notes 5⅜pc

SUNDAY, APRIL 23

DIVIDEND & INTEREST PAYMENT—
Coventry 7pc Red. 1978 3½pc

COMPANY NOTICES

Notice to Bondholders

IMATRAN VOIMA OSAKEYHTIO
20,000,000 European Units of Account 9¾%
1975/85 Guaranteed Bonds

Pursuant to the provisions of the Purchase Fund notice is hereby given to Bondholders that no Bonds have been purchased for the Purchase Fund during the twelve-month period from March 25, 1977 to March 24, 1978.

Amount outstanding: UA 20,000,000.

IMATRAN VOIMA OSAKEYHTIO

April 17, 1978

Friends' Provident Life Office

NOTICE IS HEREBY GIVEN that the ONE HUNDRED AND FORTY-FIFTH ANNUAL GENERAL MEETING OF MEMBERS is appointed to be held at PIXHAM END, DORKING, SURREY, ON WEDNESDAY, 10TH MAY 1978, at 2.30 p.m.

1. To receive the Accounts for the year ended 31st December 1977 and the reports of the Directors and Auditors thereon.
2. To elect Directors.
3. To appoint Auditors and determine the basis of fixing their remuneration.
4. To transact any other ordinary business.
5. To propose, as special business, that the limit on the aggregate amount of the remuneration of the Directors be increased.

A Member entitled to attend and vote at the above meeting is entitled to appoint a proxy to attend and vote on his behalf and such proxy need not also be a Member of the Office. The instrument appointing a proxy, a specimen of which is set out in rule 30 of the Rules of the Office, must be deposited at Pixham End, Dorking, Surrey, at least forty-eight hours before the time of the meeting. Proxy forms may be obtained on application to the Secretary.

Members intending to attend and vote personally at the meeting should be prepared to quote their policy number.

By Order of the Directors,
R. N. JOHNSON, Secretary.

NOTE: A copy of the Annual Report and Accounts will be forwarded to any Member who makes application for one to the under-mentioned address, or to 7 Birchin Lane, London EC3P 3BA.

Friends' Provident Life Office, Pixham End, Dorking, Surrey RH4 1QA

NEDERLANDSE UNILEVER BEDRIJVEN B.V.

formerly Van den Bergh's en Jurgens' Fabrieken N.V.

5½% PREFERENCE and ORDINARY 'A' SUB-SHARES

Issued by N.V. Nederlandsch Administratie- en Trustkantoor

The second half yearly dividend of 2.75% (Fl. 0.33) and a second interim dividend of 6.82125% (Fl. 0.2046375) respectively for 1977 will be paid on and after 2nd May 1978. To obtain these dividends, certificates must be listed on forms obtainable from, lodged with for marking, and left for five clear days for examination by one of the following banks:

Midland Bank Limited, New Issue Department, Mariner House, Pepys Street, London EC3N 4DA;
Northern Bank Limited, 2 Waring Street, Belfast BT1 2EE;
Allied Irish Banks Limited, Securities Department, 3/4 Foster Place, Dublin 2;
Clydesdale Bank Limited, 30 St. Vincent Place, Glasgow.

from which banks fuller details of the dividend may be obtained on and after 2nd May 1978.

N.V. NEDERLANDSCH ADMINISTRATIE- EN TRUSTKANTOOR

London Transfer Office:
Unilever House,
Blackfriars,
London EC4P 4BQ.

13th April 1978.

EMPRESA NACIONAL HIDROELECTRICA DEL RIBAGORZANA S.A. (ENHER)

U.S.$25,000,000 FLOATING RATE NOTES DUE 1979/90

NOTICE IS HEREBY GIVEN that the rate of interest for the period April 17th, 1978, to October 17th, 1978, has been fixed at 9¼ per cent. per annum.

HILL SAMUEL & CO. LIMITED.
17th April, 1978.

AUSTIN REED GROUP LIMITED

NOTICE IS HEREBY GIVEN that the Register of Members will be CLOSED and the registration of transfers of ALL CLASSES of shares will be suspended from 8th to 12th May 1978 inclusive.

By Order of the Board,
G. J. TUBB,
Secretary.

P.O. Box 2AJ,
103/113 Regent Street,
London W1A 2AJ

NOTICE TO HOLDERS OF BEARER DEPOSITARY RECEIPTS (BDRS) in DAI NIPPON PRINTING CO., LTD.

We are pleased to confirm that copies of the Semi-annual Consolidated Financial Statements for the six-month period ended November 30, 1977, of Dai Nippon Printing Co., Ltd., and Consolidated Subsidiaries are now available to BDR Holders upon application to the following conversion agents:

Citibank branches in:
London — Frankfurt
Brussels — Amsterdam
Paris — Milan
and in Luxembourg:
Banque Generale du Luxembourg

CITIBANK, N.A.,
as Depositary.

April, 1978.

HEPWORTH CERAMIC HOLDINGS LIMITED

NOTICE IS HEREBY GIVEN that the Share Transfer Books of the above named company will be closed from the 29th April to 9th May, 1978, inclusive, for the preparation of Dividend Warrants.

By Order of the Board,
J. BIRTWHISTLE, Secretary.

Genefax House,
Sheffield S10 3FJ.

CONFERENCES

WEST END THEATRE AVAILABLE for hire for meetings and conferences. Light refreshment facilities available. Phone 240 2076.

PERSONAL

CLUBS

EVE, 189, Regent Street. 734 0557. A la Carte or All-in Menu. Three Spectacular Floor Shows 10.45, 12.45 and 1.45 and music of Johnny Hawkesworth & Friends.

GARGOYLE, 69 Dean Street, London W.1. NEW STRIPTEASE FLOORSHOW THE GREAT BRITISH STRIP Show at Midnight and 1 a.m. Mon.-Fri. Closed Saturdays. 01-437 6455.

LEGAL NOTICES

No. 001102 of 1978

In the HIGH COURT OF JUSTICE Chancery Division Companies Court. In the Matter of APPERSETT (BUILDERS) LIMITED and in the Matter of The Companies Act, 1948.

NOTICE IS HEREBY GIVEN, that a Petition for the Winding up of the above-named Company by the High Court of Justice, was on the 10th day of April 1978, presented to the said Court by SANDELL PERKINS LIMITED whose registered office is situate at: Cobtree House, Forstal Road, Aylesford, Maidstone, Kent, Timber Merchants, and that the said Petition is directed to be heard before the Court sitting at the Royal Courts of Justice, Strand, London WC2A 2LL, on the 8th day of May 1978, and any creditor or contributory of the said Company desirous to support or oppose the making of an Order on the said Petition may appear at the time of hearing, in person or by his counsel, for that purpose; and a copy of the Petition will be furnished by the undersigned to any creditor or contributory of the said Company requiring such copy on payment of the regulated charge for the same.

BRABY & WALLER,
2/3, Hind Court,
Fleet Street,
London, E.C.4.
Ref: F/TTH. Tel: 01-353 5311.
Solicitors for the Petitioner.

NOTE.—Any person who intends to appear on the hearing of the said Petition must serve on, or send by post to, the above-named notice in writing of his intention so to do. The notice must state the name and address of the person, or, if a firm, the name and address of the firm, and must be signed by the person or firm, or his or their solicitor (if any) and must be served, or, if posted, must be sent by post in sufficient time to reach the above-named not later than four o'clock in the afternoon of the 5th day of May 1978.

RE: DESASTRE

Bale St. Anne Estates Limited whose registered office is Westaway Chambers, Don Street, St. Helier, Jersey

NOTICE IS HEREBY GIVEN that the property of the above-named Company has been declared "en desastre" (tantamount to a declaration of bankruptcy) by Act of the Royal Court of Jersey, dated, the 7th April, 1978, and that the creditors are required on or before the 6th June, 1978, to send their names and addresses and full particulars of their claims to the Viscount, Royal Court House, St. Helier, Jersey, or in default thereof they may be excluded from the benefits of any distribution that may be made.

Any creditor who claims that any amount due to him is a privileged debt ranking for payment in priority to ordinary debts, or who has a surety, must so state in his statement of claim.

Persons who are indebted to the above-named Company are required to pay the amounts due to the undersigned.

P. F. MISSON, Viscount
Chief Executive Officer of the Royal Court of Jersey.

ART GALLERIES

AGNEW GALLERIES, 43, Old Bond St., W.1. 629 6176. THREE CENTURIES OF BRITISH PAINTINGS. Until 28 April. Mon.-Fri. 9.30-5.30. Thurs. until 7.

BROWSE & DARBY, 19, Cork St., W.1. SICKERT. Mon.-Fri. 10.00-5.30. Sat. 10.00-12.30.

COLNAGHI, 14, Old Bond St., W.1. 01-491 7408. INDIAN PAINTINGS—Mughal and Rajput 1500-1850. Until 8 May. Mon.-Fri. 9.30-5.30. Sat. 10.1.

FIELDBOURNE GALLERIES, 63, Queens Grove, N.W.8. ART IN RELIGION.

FOX GALLERIES. Exhibition of the paintings by British and European Artists from 1700-1965. 5-6, Cork Street, London, W.1. Tel. 01-734 2626. Weekdays 10-6. Sat. 10-1.

PERSONAL

URGENT

THE MARIE CURIE MEMORIAL FOUNDATION is profoundly grateful to those kind friends who have to date made interest free loans enabling us to commission our two new homes caring for over 100 seriously ill cancer patients. However, more loans, providing a wonderful dividend in the relief of human suffering, are urgently needed to finance the outstanding capital cost amounting to £½ million. Will you please help? Repayment guaranteed at 6, 12 or 24 months, or on 7 days call. Details from the Secretary, 124, Sloane Street, London SW1 9BP. Tel. 01-730 9158.

IN DEED IT IS

Technical Page

EDITED BY ARTHUR BENNETT AND TED SCHOETERS

● METALWORKING

Welds are kept to right track

WORK CARRIED out in Germany on behalf of the big Swedish welding specialist group ESAB has led to the development of an electronic method of continuous control of the tracking of welding heads on MIG and MAG machines.

Far superior to earlier methods which relied on mechanical feelers to ensure correct line-following, the new equipment relies on the arc itself as the sensor to maintain correct tracking of the electrode along the joint.

Any variations in the breadth, length or other dimensions of the arc from the correct parameters are immediately sensed and the differences translated into commands to two control motors.

These apply the appropriate adjustments to bring the arc back to where it should be, through a pair of worm-driven slides which carry the welding head.

The method is now fully established for inert gas and argon gas welding. It is being extended to TIG and submerged arc and is expected to be available on such equipment in six months.

A further development will take in three-dimensional movement.

In the meantime, equipment has been installed and is performing very satisfactorily in Germany on large tanks and transformer casings.

It has been found that the system offers particular advantages when very long weld runs need to be made and cuts the time required for manual welding by a factor of four. Where thin and thick plate are to be joined, the system will allow for a fixed, appropriate offset of the arc.

The system was shown for the first time earlier this month in New Orleans.

ESAB is now working with the Volkswagen group to improve tolerances in automatic welding set-ups and it is proposed to combine ASEA/ESAB robots with the welding arc follower for areas where gas welding is required.

Further information from ESAB, Box 8850, S-402 71, Gottenburg 8, Sweden.

Protects metal surfaces

ANTI-CORROSION treatment for all ferrous metals, thought to be *the first of its type which works* by absorbing surface moisture and then coating the surface with a moisture resistant film—which cannot be accidentally rubbed off—has been evolved by lubricant specialist Isaac Bentley and Co.

Vinbrite DP7 has applications in all areas of industry where metal items may be subject to corrosion from the atmosphere during storage. Applied either during the manufacturing stage or at the point of storage, Vinbrite can be used to protect the internal surfaces of pipes or tanks designed to carry oil, gas and the phosphate ester fluids used in the compensators, tensioners and blow out preventers of offshore rigs.

The material is in the form of a water-based emulsion. The absorbed water is evaporated to atmosphere, together with the emulsifying water, leaving the soft greaselike film, which is sufficiently tenacious to allow components to be handled after application with no risk of protection being affected.

A swab immersed in Vinbrite, pulled through a pipe of smaller diameter, is sufficient to provide a coating and full protection against corrosion.

Isaac Bentley and Co., Naylor Street, Liverpool L3 0PS. 051227 1177.

● INSTRUMENTS

Aids examination of difficult specimens

SUBSTANCES which do not readily lend themselves to analysis by conventional methods of absorption and reflection spectrometry — opaque smears, creams and rough or irregular solids are good examples—can be satisfactorily dealt with by a new instrument made by EDT Research of London.

The spectrometer, OAS400, makes use of the discovery almost a century ago of the opto-acoustic effect by Alexander Graham Bell. The instrument is believed to be the first major exploitation of the effect in a commercial unit that will look at almost any kind of substance.

The £35,000 development has been 70 per cent. backed by NRDC and the work carried out by a team led by Dr. G. Kirkbright of Imperial College.

As little as two microlitres of the sample are placed in a very small sample cell which is simply inserted into the spectrometer. The sample is then irradiated with light of increasing wavelength, the spectral scan covering the range from infrared to ultraviolet, via the visible, in a few minutes.

When the light strikes the surface of the sample, it is converted into heat which in turn causes the pressure to rise in the cell, to an extent dependent upon the wavelength and whether molecules are present that are specifically excited by that frequency.

In the OAS400 the light source is chopped by a shutter: the pressure oscillates at the same frequency, its amplitude being a measure of the molecules present, and the oscillations are detected by a microphone in the wall of the cell. Results—an absorption spectrum of the sample—are plotted on a chart recorder.

An important bonus for the technique is that it becomes possible to "look in" at different depths below the surface of the sample. This is because although the conversion from light to heat may take only a few nanoseconds, heat transference through the sample to the surface may take several milliseconds—of the same order as the chopping frequency. Hence, phase delay of the pressure signal in relation to the incident signal yields depth data. Using high chopping frequencies depths to only a few microns may be analysed while lower modulation frequency enables the analyst to search deeper.

Wide application is expected in biological work and in the food, pharmaceutical, paint, oil and semiconductor industries for example. More from EDT Research on 01-961 1477.

Gauges wave velocity

DEVELOPED at the National Maritime Institute and now commercially available through NBA (Controls) of Farnborough, Hants., is an instrument for measuring unsteady wave velocities, mainly on offshore structures.

Measurement is performed by a cantilevered beam rigidly fixed to the structure at one end and carrying a perforated sphere at the other. The beam is strain-gauged to measure two mutually perpendicular components of the hydrodynamic forces acting on the sphere. The strain gauges are waterproofed and the whole beam has a metal shroud around it with flexible waterproof seals. Design of sphere and shroud are such as to minimise vortex shedding and the seals have been designed to prevent distortion due to pressure at different immersion depths.

Outputs from the strain gauge bridge circuits are proportional to the applied forces, and to the square of the local velocity. Suitable signal processing and display facilities are available from the company.

For a two dimensional unsteady flow one probe will give the time history of the velocity, while in three dimensional flows two probes will determine absolute velocity. Probe frequency response is flat.

More on 0252 514335.

● By agreement between the Financial Times and the BBC, information from The Technical Page is available for use by the Corporation's External Services as source material for its overseas broadcasts.

● COMPUTERS

New kind of insurance

ALTHOUGH every computer in the country is probably insured against loss of the hardware, and in some cases the software, in the event of fire or other disaster this might not in itself get the system "on its feet" again and (in an increasing number of cases) back to running the owner's business.

According to Colvin Computer Centres, the main problem is finding somewhere to put the machine, old or new, until the premises are reinstated.

Colvin has announced a scheme, arranged along the lines of an insurance policy by which participants pay an annual premium but instead of receiving an agreed sum in the event of a disaster, are entitled to make use of emergency accommodation for an agreed period. Fully functional accommodation is provided complete with everything except the computer itself.

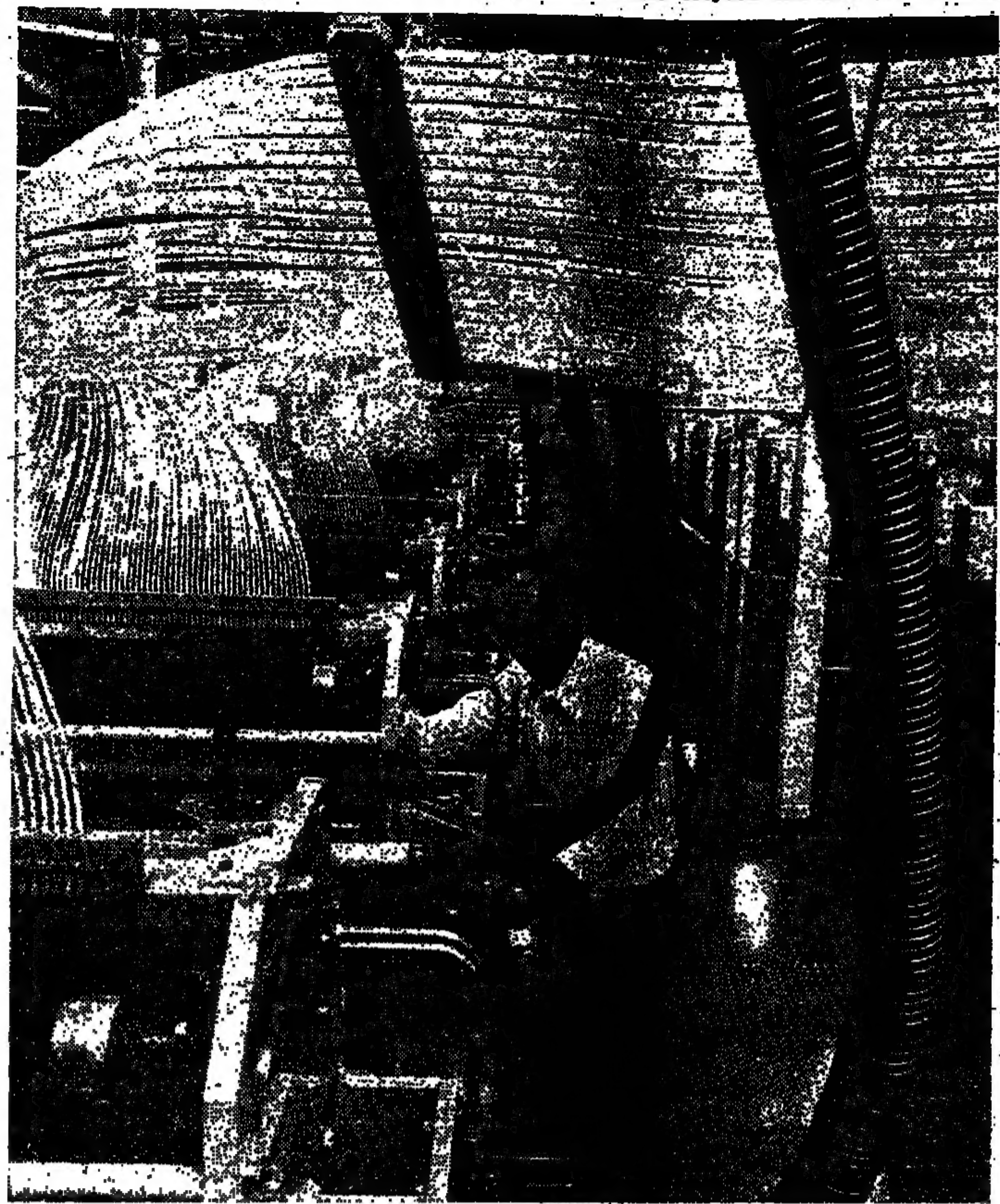
Premium is £4,000/annum, believed by Colvin to be less than 1 per cent. of a typical company's annual DP budget.

Any one accommodation centre will be limited to 25 subscribers, reducing the chances of any two needing it at the same time.

Occupancy will be limited to nine months, and no rent will be payable. However, a surcharge will become due for the three months exceeding this period and if during the extension any other subscriber needs the accommodation, it must be vacated.

Each centre has facilities for tele-processing, office and data preparation areas and storage space, together with a central switchboard. A stock of standard Post Office modems are carried and Telex has been installed.

More from 86 Park Lane, Croydon CR0 1JF. (01-688 3682.)



This machine has been developed by McDonnell Douglas Corporation for the production of insulation material for ships carrying liquefied natural gas at temperatures of minus 163 degrees C. Only part of the machine can be seen here as it is 271 feet long. It is now undergoing tests at the McDonnell Douglas Astronautics Company's plant at Huntington Beach, California. The material produced is polyurethane foam stiffened in three directions by glass yarn and it emerges from the machine in the form of an endless "log" 2 feet wide, and 13 inches thick. The tubes above the operator's head feed the machine with glass fibre. McDonnell Douglas, in partnership with the Gaz Transport Company of France, has a contract to provide the liquefied natural gas containment systems for two 900 foot tankers to be built by Sun Shipbuilding and Dry Dock Company.

● POLLUTION

Cutting the noise in factories

IN CASES where it is not possible to effectively reduce the noise at source in industry, Acousticabs of York has developed a system by which the whole building or working space can be treated using panels suspended from the roof.

It has already had initial success with the Ministry of Defence where the problem was one of intense noise radiated by tank diesel engines under test. Noise levels of about 100 dBA were experienced in the test area and conversation was impossible even 100 ft. from the vehicle. Using the suspended panel system, reductions exceeding 10 dBA have been achieved.

The company believes it is not widely appreciated that noise at any point on a busy shop floor—say in a machine shop—is partially the result of the source sound being reflected from the acoustically hard surfaces of the roof. An important result of using absorbtive panels near the roof is that much less noise is perceived from a machine a relatively short distance from it, whereas normally a particularly noisy machine will be heard at the other side of the shop.

The panels are made from steel frames measuring 1,000 x 600 x 80mm containing rock fibrous material particularly effective in the 500 to 200 Hz spectrum.

Several thousand of them may be required, suspended at various heights from the roof depending upon the acoustic characteristics of the total space involved. Overall result is the acoustic damping of a major reflecting surface of the factory or shop; the reverberation time is typically cut by half and noise levels can be cut by 6 to 8 dB where there are one or two particularly objectionable sources.

● HANDLING

Multi-trip crates cost less

DESPITE the imposition of a heavy deposit on plastic crates, there are often serious delays in their return which place a considerable burden on companies' purchasing and re-stocking policies. The problems, especially in the soft drinks trade, are more acute during peak marketing periods. Now Ashton Containers has launched a drinks crate made from corrugated fibreboard, capable of making up to 60 trips.

More from the company at Livingston, West Lothian, Scotland.

● PROCESSES

Analysis of water

PYE UNICAM has released details of its AC6 water analysis system—which offers an alternative to the conventional continuous sytems used in water analysis.

AC6 comprises the company's automatic chemistry unit, an UV/visible spectrophotometer and a digital printer. The chemistry unit takes samples, adds up to 4 reagents, incubates (at any temperature between 20 degrees C and 70 degrees C and transfers the samples ready for measurement in absorbance or directly in concentration.

Results are then displayed on the printer, along with sample identification from the chemistry unit.

The AC6 works on a flexible discrete principle. Every sample handled has its own disposal test tube, rather than being separated by an air bubble in a continuous tube. This has many advantages, the main ones being lower cross-contamination and therefore better result of discrimination, wide analytical range, higher sample throughput and a faster interchange of analysis methods.

- Pye Unicam, York Street, Cambridge. 0223 58866.

CONTRACTS AND TENDERS

هكذا من الأصل

APPOINTMENTS

Guinness Park Royal managing director

Mr. M. R. Hatfield has been appointed managing director of ARTHUR GUINNESS SON AND CO. (PARK ROYAL), following the death of Mr. P. T. Cunningham.

★

Mr. C. J. Spence has been appointed a director of the ENGLISH ASSOCIATION OF AMERICAN BOND AND SHARE HOLDERS.

★

London-born Mr. Robert A. Savage has been elected executive vice president and Mr. C. C. Chin has been elected senior vice president of AMERICAN EXPRESS INTERNATIONAL BANKING CORPORATION.

Mr. Savage joined the London branche of AEIBC, a wholly owned subsidiary of American Express Company, in 1965 as principal foreign exchange dealer. In 1971 he was elected vice president, with worldwide responsibilities for foreign exchange and money management. He was assigned to New York in 1973 and was elected senior vice president the following year. As executive vice president, Mr. Savage retains responsibility for the commercial banking network activities of AEIBC and its subsidiaries in their 65 locations around the world.

Mr. Chin, who joined AEIBC in 1961, has been associated with the Asian correspondent banking group since 1965. Mr. Luis A. Abella and Mr. Peter Fowler, both specialists in Latin America, have been elected vice presidents of AEIBC.

★

Mr. Tom Hibbert, has succeeded Mr. Michael Roberts as chairman of the WOOL TEXTILE DELEGATION. Mr. Russell Smith, has been re-elected a vice-chairman and Mr. Bruce-Murgatroyd will serve as the other vice-chairman for a limited period. Mr. Derek Brabbury continues as honorary treasurer.

★

Mr. Gerry Harriett has been elected president of the GRAPHIC REPRODUCTION FEDERATION. Vice-president is Mr. Malcolm Fifer, and Mr. Jerrold Goodman has been elected honorary treasurer. Immediate past president is Mr. Michael Denby.

★

Mr. W. A. Cavender has joined CYBERNET TIME SHARING as managing director from Honeywell Network Information Systems where he was sales and marketing director.

★

Mr. F. E. Bleasdale has been appointed an assistant general manager (international) MIDLAND BANK from May 1. He joins Midland from the Esso Petroleum Company.

★

Mr. J. Simpson, Mr. D. C. Wake and Mr. R. J. Martin have been appointed directors of WALTER LAWRENCE.

★

Mr. D. H. Jones, Mr. B. A. McSwiney and Mr. M. S. Rosenberg have been appointed executive directors on the Board of UNITED MEDICAL ENTERPRISES, the company owned jointly by National Enterprise Board, Commercial Union Assurance, Orion Bank and London Trust, and which recently made a successful bid for Allied Investments.

★

The Secretary for Prices has appointed Mrs. Janet Upward as deputy chairman of the DOMESTIC COAL CONSUMERS' COUNCIL until February 28, 1981.

★

Mr. A. J. Hughes was elected president of the PAINTMAKERS ASSOCIATION of Great Britain for 1978-79. He is chairman of Berger Jenson and Nicholson.

★

Mr. Robert R. Edgar has been appointed chairman and Mr. Ronald Collingwood, deputy chairman, of H. SAMUEL, and both remain joint managing directors. Mr. S. R. Gentilli and Mr. G. G. Lemen continue as merchandise director and estates director, respectively, and Mr. J. N. Lindop as a non-executive director.

New credit details out soon

By Michael Blanden

MORE DETAILED figures on the amount and pattern of instalment credit business in the U.K. are to be published soon by the Department of Trade, according to Credit, the journal of the Finance Houses' Association.

Mr. M. J. Erritt, a chief statistician at the Department, reports that the improved information will result from a revised form of inquiry to be introduced in July.

Its emphasis would be on consumer credit transactions. This was aimed at enabling the authorities "to monitor more effectively the trends of business under agreements regulated by the 1974 Consumer Credit Act."

The provisions of this Act were being introduced in stages and would bring a big improvement in the protection offered to consumer borrowers. The new statistics were geared to this.

Rental receipts would be covered for the first time and contributors — who are to be more representative of the consumer credit industry—would be asked questions specifically about running account credit. Figures on repayments would also be required.

£12m. to be spent on creating new jobs in South Wales

A £12m. package of Government measures to provide new jobs in the Blaenau-Gwent area of South Wales was announced at the weekend by Mr. John Morris, Welsh Secretary. He said that after the ending of steelmaking at Ebbw Vale works next month it had been decided to invest £12m. on new factories and sites.

Up to £8m. would be allocated to the Welsh Development Agency in 1978-79 for accelerating development of the Rassau Industrial Estate; and a programme to provide 450,000 square feet of factory space in the area would begin.

The investment initially would provide up to 900 jobs with the prospect of double that number eventually. It would bring much needed work for the construction industry in the area.

The Government was determined that every help should be given to the industrialist seeking to move to the Ebbw Vale area or expand business there, said Mr. Morris.

The task of finding new jobs was "daunting" and good communications were vital. He hoped it would be possible to bring forward a plan for a by-pass between Roger Stone and Risca, in Gwent.

Mr. Ian Gray, managing director of the Welsh Development Agency, said: "We have already done a great deal of grand work in developing what will be a major new industrial estate at Rassau, near Ebbw Vale.

"We have spent £700,000 on clearing the site and within the next few days we expect to let a £2m. contract for site engineering, which will create platforms for the new factories, and for site roads and services.

"Work on building factories will commence in July and the first unit should be ready about a year from now. The number of inquiries we are receiving about industrial premises in the Heads of the Valley area is very encouraging."

Building and Civil Engineering

£3½m. in City and outer London

THREE CONTRACTS totalling £3½m. have been won by Kyle Stewart.

The largest is worth just over £2m. and is for alterations and improvements to 100 Cannon Street, London, EC4, for Bilboa House. Due for completion in September next year, the work is to be carried out under the direction of Hillier Parker May and Rowden.

Down in Surrey, at Cross Oak Lane, Redhill, Kyle Stewart is to construct a four-storey laboratory for Philips Electronic and Associated Industries and connect it to an existing building. The largely reinforced concrete structure will cost £1¼m. and take just over a year to complete. Architects are Norman and Dawbarn.

Under the third contract, a two-storey laboratory building is to be constructed at the Central Veterinary Laboratory, Woodham Lane, New Haw, Surrey, for the Property Services Agency. Work has already started on this £375,000 contract which is due for completion by March, 1980.

Two awards to Reed and Mallik

THE SCOTTISH REGION of British Railways has awarded a £875,000 contract to Reed and Mallik, the civil engineering division of the Rush and Tompkins Group, for the construction at Stranraer of a jetty and associated structures.

The facility has been designed to accommodate new two-deck ferries to be introduced on the Stranraer-Larne crossing and work, which will start soon, is scheduled for completion early in 1979.

The jetty, which will be 175 metres long, is to have a reinforced concrete deck supported on steel Rendhex box piles up to 25 metres in length. Associated works will include mooring dolphins, fenders, supports for the ramp machinery and navigation beacons in Loch Ryan to mark the dredged channel.

Further work is also to be carried out on recently reclaimed land, including an access road, steel approach bridge and a pedestrian access bridge.

Reed and Mallik is also undertaking a £215,000 road improvement contract for Strathclyde Regional Council. This involves work on the A78 Glasgow-Greenock road at Fence Foot Fairlie.

Russians drill a deep hole

SOVIET geologists who are drilling a 15km borehole on the Kola Peninsula have reached a depth of 8,200 metres and are now making preparations to penetrate to 10,500 metres, reports the Novosti Press Agency.

The success of the experiment largely depends on the cable by means of which measuring instruments are lowered into the earth's mantle. In the first stage, a 9 km. cable was used.

A 16km cable to reach a depth of 15km is now being designed. It will be of varying thickness, able to withstand its own weight and the weight of the instruments and the increasing pressure, which will reach 3,000 atmospheres. It will also require increased thermal resistance and capacity enabling it to transmit data of three kinds of investigations simultaneously, thus reducing the number of times it will have to be lifted to charge the instruments.

At a depth of 10,500 metres the temperature is expected to reach 210 degrees C, and at 15,000 metres 350 degrees C.

£3m. piling contracts

BEARING PILES for the Abu Dhabi National Hotels Co.'s 420-bedroom hotel to be built close to Abu Dhabi Airport are to be constructed by Stent Foundations, a member of BICC's Balfour Beatty Group.

About 1,800 piles in diameters of 600 mm and 900 mm are called for under the £2m. contract. Consulting engineers are Dar al-Handasah Consultants—Shair and Partners of Beirut and the main contractor is Joannou and Paraskevaides (Overseas).

Back in the U.K., Stent has won two piling contracts, together worth over £1m. The larger (£720,000) is for sheet pile walls and large diameter bored piles for the new Royal Bank of Scotland offices in Dundas Street, Edinburgh. Included in the contract will be demolition, excavation and drainage works. Consulting engineers are Blyth and Blyth.

The other contract (£330,000), awarded by the Southern Water Authority, is for tension and compression piles for a sewage treatment works at Peel Common, Fareham, Hants. About 2,228 piles will be constructed. Main contractor is John Laing.

Designed to demolish

CAPABLE of undertaking many of the duties usually requiring much heavier class breakers is a new medium duty lightweight demolition tool, the CP-1210. Consolidated Pneumatic Tool, Fraserburgh, Aberdeenshire (03462 3131) has designed the tool with a particularly high power to weight ratio.

Its 42 lb (190.5 kg) can cope with asphalt and tarmac cutting, tamping, clay digging and stone splitting as well as breaking out and general demolition. It is available in standard and noise suppressed versions.

Skatepark system

AN ABOVE-GROUND, modular, pre-cast concrete skatepark system, offering an instant leisure package to councils (it can be unsupervised), has been developed by a team of consulting engineers and naval architects, a construction group and a civil engineering company.

Technical advisers are MacAlister Elliot and Partners, Lymington, Hants. REEMA Construction (part of Aberdeen Construction Group) has manufactured Radical Banking, a factory-finished product, guaranteed for five years against surface and structural failure in normal use, whose in-situ installations will be handled by Walcon, of Twyford.

There are 3m. skateboarders in this country, says the Great Outdoors Skatepark Company, and a vast number of unused buildings—cinemas, factories, warehouses, plus nettle-choked, unused outdoor sites which would all be transformed on a short term or temporary basis into unsupervised skateparks for experienced and beginner skaters.

The system comprises: Radical Banking, pre-cast concrete finished in Skatecrete; in-situ concrete, suitable for large, excavated parks, and ferro-cement which can be used for all installations but particularly indoor sites, even on suspended floors, with one-off complex designs for portable exhibitions.

Crouch at Crawley

THE FIFTH housebuilding contract won by Crouch Construction (construction subsidiary of Crouch Group) for work on the Bewbush site for Crawley Borough Council, is worth around £2.2m.

Another 156 houses and 12 flats, including roads and sewers will, on completion, bring the total built by the company on this scheme to almost 1,200.

Work commences this month on the units which will be of the Rationalised Traditional method incorporating timber panelling back and front and cladding with brickwork, tiles and boarding.

Factory in S. Wales

A CONTRACT worth £2.4m. for the new Hoover factory at Merthyr Tydfil has been received by the south west region of Drake and Scull Engineering.

This covers the provision, installation and commissioning of the electrical and mechanical services in the 25,000-square-metre production building, eight ancillary buildings and the boiler house. George Wimpey is building the factory for the Welsh Development Agency.

£1½m. worth in Scotland

OVER £1½m. worth of contracts have been won in Scotland by Norwest Holst.

Lothian Regional Council has awarded two of them. One valued at over £1.1m. is for extensions and alterations at South Queensferry High School and the other, also at South Queensferry is for the construction of Echline Primary School, which will cost £302,359.

A third contract is for the foundations for the heat exchange unit for a continuous casting plant at Ravenscraig for the British Steel Corporation. This is worth £106,000.

More work for French

CONSTRUCTION of a terminal at Pembroke Dock for the Milford Haven Conservancy Board is to be undertaken by Kier. Value of the contract is £2.1m.

Apart from the roll-on/roll-off and passenger facilities to be provided, the contract calls for berthing dolphins, pontoon restraint dolphins, a vehicle pontoon and footbridges.

Another contract for Kier is valued at nearly £1m. and is for work at CBS Records' development at Aylesbury, Bucks., for which Bovis is the managing contractor. The work here involves foundations for a new factory, office block, oil tank farm, roads and car parks.

Robert Marriott which, like Kier, is a member of the French Kier Group, has been awarded a contract for the erection of 98 dwellings by Milton Keynes Development Corporation. This is worth over £1.1m. and will take just over 18 months to complete.

Single and two-storey dwellings of traditional construction are called for, together with roads, sewers and services.

Computer centre

GEC Midland Computer Services has awarded a contract worth £181,000 to Lesser Construction for the design and construction of a computer centre in Newport Road, Stafford.

The conversion of a building known as The Hollies Cottage next door to the centre will result in a single storey 953 square metre building to accommodate the computer centre staff.

Keeping it hot

TECHNOIMPORT, the State-controlled Board based in Hanoi, has placed a major contract with the Polysius (France) organisation for the extension of the Hatien cement works.

Additional plant will be required for a new kiln with a 3,000 tonne per day output of clinker for the production centre of Kien-Luong and for a grinding and bagging plant at Thu-Duc.

This will extend production at Hatien to 1.24m. tonnes a year once the expansion of the plant has been completed. Polysius has appointed Merlin-Gérin as prime contractor for the supply of all electrical distribution and control equipment for the new plant where installed capacity will reach 30 MVA.

Defences against flooding

HIGGS AND HILL Civil Engineering has been awarded a £1.3m. contract for work on the Thames flood defence scheme at Gravesend, Kent, by the Southern Water Authority.

Work on the project has started and will take nearly two years to complete. The contract involves raising the river bank by about two metres and the construction of reinforced concrete walls.

Higgs and Hill will also instal steel sheet pile flood walls complete with steel walings, ground anchors, fenders and mooring devices as well as sliding and hinged steel floodgates complete with the necessary operating machinery.

Included in the contract is the reconstruction of a lock of an unused canal which leads off the Thames. Consulting engineers are Sir Bruce White, Wolf and Barry.

McAlpine in Wales

INITIAL muckshifting, roads and drainage involved in creating the Rassau Industrial Estate near Ebbw Vale, at a cost of £1.93m., is to be done by Sir Robert McAlpine and Sons.

General levelling and excavation of some 800,000 cubic metres on a site area covering 72 hectares will begin next month, with completion a year later.

Cement works extended

HOT ASPHALT storage systems capable of storing asphalts and tarmacadams to BS 594 for up to 72 hours, are now available in the U.K. from Hunt-West (a member of the Hunt and Moscrop Group).

Main advantages of such plants are that existing manning levels are maintained while vehicle movement is optimised with the turnround time for a 20 tonne vehicle being on average two to three minutes. Mixing plant effective outputs can now be increased by as much as 50 per cent. for about 25 per cent. of the cost of installing a second mixing plant, claims the company.

Chippings strip in hot summer

THE REASON for at least 5m. square metres of Britain's roads losing 10 per cent. or more of their chippings during the winter of 1976-77 is attributed by the County Surveyors' Society to "super dry" dusty chippings.

The Society's conclusion follows a survey, carried out in 129 highway divisions in 32 counties and two London boroughs, to study damage during that winter to surfaces dressed the previous summer.

The highest failure rate was found on roads repaired during August. Weather reports showed there were consistently high temperatures during July and August when rainfall was remarkably light, although in the following months it was double the average.

Taking all these factors into account the Surveyors conclude that many of the failures in the 1976 surface dressing work were due to stockpiled chippings becoming progressively drier through continuing hot weather with the result that the August work was undertaken with super dry dusty chippings. Their adhesion to the road surface was impaired and with the onset of relatively cold wet weather in October and November the chippings stripped off under traffic.

This conclusion is supported by evidence of successful work being undertaken immediately following July showers of rain. Again a measure of success was achieved in September, by which time the chippings used were damp.

The Surveyors now suggest that in the event of future prolonged periods of dry weather, as in 1976, surface dressing work should be postponed until after rain has fallen, or stockpiled chippings hosed with water to dampen them before use. They also suggest that the Transport and Road Research Laboratory might be asked to undertake further studies of the phenomenon.

Copies of the report may be obtained from Mr. R. J. Nixon, Deputy County Surveyor, County Hall, Northallerton, North Yorkshire. The report costs £1.00 and appendices £3.00.

IN BRIEF

● A turnkey contract worth nearly £200,000 has been won by Danks of Netherton for three boilers for the British Gas natural gas plant, Isle of Grain, Kent.

● Rosser and Russell (International) has won a £750,000 contract for the provision of plumbing, fire and sanitary services at the Abu Dhabi National Oil Company's residential complex on the Abu Dhabi Corniche. Bernard Sunley is the main contractor. Rosser and Russell is already engaged on a £2m contract for the provision of air conditioning services for this project.

● Over £400,000 worth of contracts have been won by FPA Finnegan. Included are a new hospital for the mentally ill for Wakefield District Council, a council house modernisation project for Kettering Borough Council and another council house improvement scheme for the Metropolitan Borough of Wirral.

● Rotherham Borough Council has awarded a £234,000 contract to R. M. Thompson of Leeds for three advance factory units on the Canklow Meadows Industrial Estate, Bawtry Road West, Rotherham. The design incorporates a low pitched steel framework with aluminium roof cladding and colour coated steel wall panelling manufactured by Butler Buildings (U.K.).

● Lesser Construction South has been awarded a contract by the Brent and Harrow Area Health Authority to design and build a geriatric day hospital at the Central Middlesex Hospital, Acton, London. Work on this project, commissioned for a total of £250,000, is under way.

The Executive's and Office World

EDITED BY CHRISTOPHER LORENZ

Why top managers are blind to the outside world

BY CHRISTOPHER LORENZ

WHEN OVER 500 of Europe's chairmen and chief executives spend more than a week together in a plush Swiss ski resort, they risk sending their desk-bound minions either green with envy or red with abuse.

When only a tiny minority of the favoured 500 chose to go on to the ski-slopes, instead of crowding into a subterranean conference hall to hear famous names discuss the need for better product innovation, and the future "plutonium economy," the reaction becomes more confused. All right, they have not come just for the ride. But why *are* they there? Is it worth the £1,860 a head, plus travel, hotels and food, which in almost every case their companies will have stumped up for them?

Learning deft footwork for use in the Boardroom, or just a pleasant escape from reality?

In an extreme form, these questions about the European Management Forum's 1978 Davos Symposium epitomise doubts about the real value of the plethora of less expensive and exclusive "briefings," "seminars" and "conferences" on non-specialised topics which are held almost weekly across Europe.

There was certainly little doubt in the minds of the top brass at Davos this year that their businesses would benefit from various aspects of the action-packed conference. But some of their reasons for attending betrayed an alarming ignorance of the environment in which their businesses are operating, an attitude which can only augur ill for their future.

Take the senior Italian executive who, in all seriousness, asked the nuclear experts on the platform to get together and produce an agreed forecast for energy supply and demand in the 1980s.

Why, in this day and age, did he need to be told how difficult it has become to make accurate predictions of any sort? Had he never heard the sort of admission, all-too-common nowadays, that "within the past nine months, forecasts of average demand growth have ranged between zero and 8 per cent." (This particular one was made at the European Petrochemical Association's last annual get-together—in a beauty spot to rival Davos, the city of Venice.)

Take the enthusiastic reaction at Davos to the Swedish manager who told a discussion group that, in his experience, "the bigger the workplace, the more problems arise. If you split things up into small groups, you help create identity and stability. And the workers react better if they're told what's going on." Surely such statements of the obvious should have provoked yawns, rather than animated discussion?

Unfortunate

To judge from a straw poll I took of about 30 participants, from eight countries, there are three main reasons why top managers are so ignorant of trends in the outside world. First, the top brass read far too few general magazines and newspapers. Second, most people, even those with years of experience on their way to the top, comprehend the written word far less readily than the spoken. Third, there is an unfortunate, though understandable, unwillingness to take notice of uncomfortable events or ideas, which upset established ways of seeing and doing things.

Coming from a journalist, this first observation reeks of self-interest. Is it realistic to expect a hard-worked, often frantic chief executive or chairman to spend well over an hour a day reading articles which may not appear directly to concern his product area?

The straw poll threw up two extremes: "I have no time to read the papers" (a Frenchman); "I read masses of them—it's part of my job" (a German).

In between was the Belgian who reads four general newspapers a day, plus several weeklies and trade journals, but feels this is still far too little, in view of the growing importance to business of "external factors" all over the world. Like almost everyone at Davos, he runs a business with operations in several countries, and is all too aware of how difficult it is to keep up with underlying international trends. Far from journalistic self-interest, he sees the reading of a wide range of newspapers as crucial to his ability to make both short-term and strategic decisions.

The obvious retort to all this is that top businessmen should have a minion who, in journalists' jargon, "tastes" general reading matter for him, sifting through 30 or more papers a day, from all over the world, and cuts out a selection of articles he thinks his boss ought to read.

This misses the point. What many of the businessmen at Davos seem not to have noticed in their reading over previous months and years were the "early warning" signs—indicators of developing trends which would affect their businesses, perhaps not immediately, but within the medium- or long-term planning horizon.

No cuttings service can replace the top manager's judgment or intuition for what is relevant to him. The cuttings service of, say, a Swiss watch manufacturer would presumably have picked up every development in the traditional industry. But would it, until the past few years, have realised the potential significance of reports about the latest advances in microelectronics in California? Yet these advances dealt the watch industry a blow from which it is only now recovering.

Less obvious, but perhaps of still greater importance, are the even more indirect indicators a company chief may pick up from an article which at first sight appears totally irrelevant; an analogous issue in another industry or country may suddenly set him thinking. It is not surprising that the internal research of at least one leading multinational suggests that the need for chance reading and discussion increases in direct proportion to an executive's position up the management scale. The more senior he is, the more important are unexpected ideas.

But why the evident need for all but the most assiduous to assimilate ideas through verbal, rather than written communication? For one thing, to quote the owner of a German engineering business, many executives find it difficult fully to comprehend the sort of documents they have to deal with for most of their working day, let alone material on issues which are not utterly familiar to them.

But even for the less mentally lazy, speeches and person-to-person discussion are generally more "plastic" than the written word. The Davos conference provides the particularly valuable service of pitting one extreme against another—Franz Josef Strauss against the Dutch Socialist leader, Joop van den Uyl, representatives of the Japanese and U.S. views on trade—so that even the laziest person is forced to think. Few pat answers are provided, a considerable advance on the average newspaper or journal, which often provides only one point of view, and a biased one at that.

The most hard-hitting explanation of why top businessmen are so unaware of the all-important external factors which will soon affect their business—if they are not doing so already—was given by an executive from Britain. "The top man is afraid to confront new ideas. If he does, he'll have to change the way he runs the firm. That means upsetting the status quo—which implies that his authority will be challenged on all sorts of points. He may have to take more notice of the young experts further down his organisation. If he's only five or even eight years away from retirement, the last thing he'll want to do is create such uncomfortable instability around him."

Lest all this seems to suggest that top level briefings and conferences would be a waste of time, if only executives did their jobs properly, it is important to recognise the value of all the informal contacts which are made at an event lasting as long as the annual Davos symposium.

The German engineering boss may be unusually widely read, but he returns to Davos year after year. It gives him the chance to think in peace, he says, away from hourly pressures and interruptions. He values the small group discussions as a regular way of checking his corporate strategy against other people's, in both similar and entirely different businesses, and in a wide range of countries: can he go on spending most of his profit on anti-cyclical investment in marketing? Should he alter his marketing approach? What should he do when the "big crash" comes—as he insists it will?

Like many other participants, he also makes specific business contacts in the corridors and mountain-top restaurants. The organisers claim that the foundation has been laid for many a business deal at the conference over the years. In 1977 a jeans factory was sold to Bolivia. Before that, a chance meeting is reputed to have led to Iran's purchase of the European Airbus. To quote one company chairman: "If my junior sales staff go to Majorca each year to plan their next campaign, why shouldn't I come to the mountains to recharge my intellectual batteries—and maybe do some business on the side?"

EXECUTIVE HEALTH BY DR. DAVID CARRICK

The Traveller's tale . . . divorce?

SOME remarkable figures concerning the effect upon marriages of overseas business trips by husbands have been published by British Airways. No fewer than 50 per cent. of the executives sampled blame domestic discordance, including divorce, upon such adventures. At first sight this appears to be damaging publicity: careful consideration will see a clever and subtle drift.

Whether the figures are accurate or not, nobody could disagree that the contention could well be correct: but generalisations are dangerous and should be examined with care. The stress occasioned among the wives of the peripatetic executive may be very considerable, depending on circumstances. If stress does occur, it is induced by a mixture of emotions, including loneliness, resentment, frustration, suspicion and even jealousy. But much depends on a number of factors, including the age of couples and the stage of their marriage: the presence and age of children: selfishness on the part of both partners: and whether alterations in status and responsibility have arisen rapidly and unexpectedly.

If a young man in a lowly executive position, recently married and apparently never likely to move from a desk—and so keeping regular hours—suddenly receives rapid promotion which leads to overseas business trips, much danger may exist. The young wife, who never bargained for sudden, long partings, may well feel lonely.

Suddenly everything has changed: new responsibilities fall on her and she may well feel frustrated and abandoned. Likewise, the husband, torn between his love for his wife and his new duties, may be anxious. If he refuses to go, then advancement can be forgotten. If he goes, it may be economically impossible to take his wife with him.

Anxieties

The next dangerous period is when the first child is born. First children are believed by their parents to be as fragile as a gas-mantle. The slightest ailment provokes great anxieties in the parents. If the husband is away when such a situation arises, then not only may the wife feel desperately lost but has an unhappy notion that the wretched man is, in some odd way, to blame for being so callous and lacking in foresight.

Later, when the children have grown up, and the marriage is on a more mellow basis, the particular problem diminishes. Sometimes the executive can afford to take his wife on journeys to conferences which are so well organised that special programmes are provided for partners. For ordinary business meetings, however, this is evidently difficult. And in much later life, so long as the wife has many friends and is involved in valuable voluntary organisations, the husband's absences may be hardly noticed. Indeed, I know one woman whose husband works in the U.S. and comes "home" only on holidays. True his children wonder who he is, but otherwise all seems to be harmonious.

All this is somewhat idealistic because, in certain cases, to whichever group the husband may belong, a resentment which can lead to suspicion never wanes unless fate snuffs it out. Always the unfortunate woman says (or merely thinks): "Why should *he* keep going off and enjoying himself?" If the wretched man's journeys are certainly essential, and all that he is going to enjoy are airport lounges, sunny Stuttgart, dull meetings, and more airports, then the strain of the operation is made far worse by domestic acrimony. True again that there are some philanderers who give real cause for jealousy: but such men never change and are as tiresome in Tottenham as in Tunisia.

. . . his children wonder who he is. . . .

Undoubtedly the stress to some wives, which reflects badly upon the husband's efficiency, is occasioned by overseas assignments. Finding solutions is not easy. But there are ways in which the matter may be eased by thoughtful management. First and foremost is the desirability of bringing the wives to meet her husband's colleagues and superiors.

If firms, particularly large enterprises, would consider their people as human with human problems and human wives, and arrange for social integration I believe that the lonely wives, having understood what the objects of travelling were to be, would gain a greater comprehension. And if occasionally the firm would pay for their man and his wife to travel together, life would be far less stressful and thus more successful than it tends to be.

And British Airways would be very pleased.

LOMBARD

A moo from a sacred cow

BY ANTHONY HARRIS

IT WAS probably bad luck rather than bad management that led Mr. Charles E. Jessop, president and chairman of the Cheltenham and Gloucester Building Society, to launch a sharp attack on Government policies on April 12. The calendar of annual general meetings is graven in stone, and movable feasts like Budgets can interfere unpredictably. Be that as it may, Mr. Jessop has not received the headlines he may have expected, and it is the duty of this column to put such matters right.

Mr. Jessop started by apologising to would-be borrowers who would have to be disappointed in their applications because of Government restrictions on the growth of lending. "It seems deplorable that building societies should be artificially restricted from carrying out the purpose of their existence," he said, expressing a sentiment which is no doubt shared by many of his opposite numbers.

He went on to point out that "there is no real evidence that the availability of mortgage money has any effect on house prices"; but here I suspect that he would find the murmurs of assent a little less unanimous. I would go perhaps a little further and express some doubts—not about the evidence, but about the fact. One does not look for evidence of the obvious. In short, his statement is amazing.

Sealed world

It is some years since I was intimately concerned with the affairs of the building societies, but what I have read since provides no evidence, in Mr. Jessop's formulation, that the movement's managers do not still inhabit what is in many ways a hermetically enclosed world of their own. It is limited on the one side by the savers whose funds they care for, and on the other by their borrowers. The movement has always been very touchy about any suggestion that the funds they so liberally provided had anything to do with the house price boom of 1972-73; house prices are clearly an Act of God. So, more accurately, are general economic conditions—though Mr. Jessop's account of the 1976 economic crisis as an event "which adversely affected mortgage lending" can be taken, perhaps unfairly, as an example of their perspective on these matters too.

What is so baffling in the movement is the combination of astronomical sums handled with the general approach of a really well-run Christmas club. Building society managers know that they handle important sums, but they cannot get used to the idea that this makes them a legitimate object of Government concern.

They are, after all, bigger in total than the clearing banks, who can hardly blow their noses without permission from Threadneedle Street. They are a major force in the securities market—in the second half of last year, for example, they bought nearly 15 per cent. of all the Government stock sold to the non-bank public, and this is the basic way in which the money supply is controlled. The fact that they have probably been sellers rather than buyers since January has a good deal to do with the state of the market this year, and even with the reception of the Budget. It would have gone down better in a basically bullish market.

Dependent

Not only do the building societies affect the Government's general strategies, but they are themselves heavily dependent on the Government. Successive governments have provided the fiscal privileges under which they have flourished, and which are now attracting the envious attention of the clearing banks. Furthermore, their own inflow depends heavily on the Government's success in managing such matters—marginal, perhaps, to the inner life of a building society, but hardly to the rest of us—as the external value of sterling, and a monetary policy which achieves its objectives without credit crunches. If Mr. Jessop were speaking this week, after due time to digest the Budget, he might legitimately complain that the Government appeared to be putting a burden on monetary restraint which might well starve the movement of funds later this year; but that would mean admitting that some restraint now is only prudent.

In short the movement, rather than complaining about the very occasional incursions of Government into their field, should rather be thanking their status, and their own well-earned reputation for steadiness, for the fact that they are not far more heavily controlled and directed. Lending to local authority nominees, proposed under new legislation, is no doubt annoying interference on the margin—but not half as annoying as a call for special deposits, let alone the corset, or the requirement to make a weekly statistical return on a form with several hundred spaces for detailed answers. Building societies avoid all these burdens and annoyances because of tradition, respectability, and above all because they are political sacred cows; but they should not protest too loudly if someone occasionally asks that they should not behave like rogue elephants.

THE WEEK IN THE COURTS

Law Commission's time to take stock

BY JUSTINIAN

WITH THE untimely death last Wednesday of Mr. Justice Cooke, the Law Commission has lost its second chairman. Now that the Commission has gone through two distinct phases in its 13 years of intensive activity in the field of law reform it is a good moment to take stock. Stocktaking is not just an exercise for the legal cognoscenti, but is vital to any member of a society that sees the need for constant refurbishing of its legal system.

Ever since Mr. Justice Cooke took over in January, 1973, there have been mutterings that the Law Commission had run out of steam and that there was not much sign of the hive of activity so characteristic of its early days. That may be the image that the late chairman projected to those who had no personal contact with him or his office. For two reasons the image is a distortion of the reality.

The first chairman was unique among his colleagues of the English judiciary. Lord Scarman, who went from the old Divorce division in 1965 to become the first chairman of the Law Commission, leaving for the Court of Appeal five years ago, and for the House of Lords last autumn, was not only an inveterate law reformer; he was a vociferous and persuasive advocate of law reform and of the new agency set up as the catalyst for legal change.

And he was that rare legal bird, a judge who had a nose for public relations and who was an effective communicator both to the Press and to the legal profession.

Contrast

By contrast, Mr. Justice Cooke was a supreme scholar who liked the role of a backroom thinker, and shunned the limelight. The description of him by an old hand at the Bar as "the kindest and gentlest man to grace the English Bench since the war" was not only a well-deserved tribute but was acknowledgment of a retiring and over-shy man. Hence the Law Commission in the last few years has not thrust its continuing good works under the noses of the public.

One of the striking features of the Scarman era was the chairman's devotion to research of immediate practical value to law reform. As a result social research findings by social scientists have formed an important and growing part of the Law Commission's work.

Indeed in its eleventh annual report a year ago, it stated its view that the social scientist had a wider role to play in law reform than just that of a producer of research material that could be made use of in particular law reform projects.

He must actually influence the climate of opinion by long-term studies, and the Law Commission sees itself as providing the focal point of the relationship between law reform and the social sciences. The new chairman needs to be particularly sensitive to these considerations in the years immediately ahead.

One inhibiting factor in an effective programme of law reform has been the plethora of law reform agencies. When Lord Gardiner as Lord Chancellor conceived the idea of a permanent, full-time body engaged in law reform, he would have done better by his brilliant brainchild if he had killed off the other part-time agencies of law reform, in particular the Home Secretary's Criminal Law Revision Committee and the Lord Chancellor's own body, the Law Reform Committee.

While the Law Commission has had its own hands more than full, and these two other bodies have been kept busy these last 13 years, the overlap of work has not been sensible and the Law Commission has not been the sole controlling agency.

The bulk of the work has been performed well by the Law Commission. An example is its report on conspiracy, now incorporated in the Criminal Law Act 1977; but the Criminal Law Revision Committee is working on all the offences against the person and sexual offences. The two bodies have learnt to live with each other amicably enough, but the split is divisive and unhelpful to good codification of the criminal law.

The Criminal Law Revision Committee, moreover, has not distinguished itself publicly. Its 11th report in June 1972 on criminal procedure was found unacceptable by large sections of the legal profession and the public, and necessitated the setting-up last year of the Royal Commission on Criminal Procedure to gather up the driftwood of the earlier report. The Criminal Law Revision Committee had fatally failed to consult the profession and the public before publishing its final report.

More important is the fact that the Law Commission has been grappling in recent years with some of the more nitty-gritty areas of the law, for example the liability for damage or injury to trespassers, and the law of conspiracy.

In its early days it deliberately went for some of the immediate reforms of great social interest and importance. In November 1966 it produced an historic document on divorce law reform, called *The Field of Choice*, which brilliantly pointed the way forward to the Divorce Reform Act 1969.

The other side to that family law coin, the jurisdiction of the magistrates' courts over matrimonial breakdown, reported on in 1976 and now being translated on to the Statute Book, aroused little or no public interest.

The last five years has thus been a period of consolidation and continued production of many valuable proposals on change in the law that have excited less of the admiration—some of it superficial—that characterised its first period of office. There has in fact been no slackening in the pace at which the Law Commission's draft Bills have been snapped up by backbench MPs for private Members' Bills, and on the major topics by Government itself.

The implementation of the Law Commission's legislative proposals discloses a remarkable record. Few proposals have remained on the shelf; for the rest the delay in implementation has been relatively short, given the enormous logjam in parliamentary business. But the relationship between Westminster, Whitehall and Theobald's Road (the site of the Law Commission's offices) is somewhat uneasy.

The significance of the second phase in the Law Commission's life is that one important element in its role has been relegated. The Law Commission has, and was intended to have, a symbolic function over and above its utilitarian role of tidying up and refurbishing the law.

So long as its name and activity was thrust consistently before the public eye it symptomised a healthy public interest in law reform; some of that public interest has diminished in recent years.

Damaged

Even if it has learnt the lesson, notably from the Law Commission, of the need to publish working papers first, its image has been damaged. The occasion of a new phase of the Law Commission should lead to the winding-up of the Criminal Law Revision Committee once it has completed its present remits.

Likewise, there is no place for the Law Reform Committee. If, from time to time, the Law Commission wishes to parcel off a subject to be tackled by another agency then it can, and should, set up an ad hoc committee under its general direction.

Whether demand for a Ministry of Justice, as envisaged by Lord Haldane more than 60 years ago, will increase depends to a large extent on the effectiveness of the Law Commission in its relations with Government and Parliament.

Wolves get that awful sinking feeling again

SOCCER
BY TREVOR BAILEY

WHEN Wolverhampton Wanderers were last relegated in 1975-76, they were a shade unfortunate as they were quite as good as several clubs who remained in the First Division.

They were certainly playing far better football than their present team, who could well suffer the same fate. On Saturday they were involved in a painful, goalless draw with Middlesbrough, the game being so littered with mistakes and short on skill as to be laughable.

Their relegation into the Second Division on the last occasion had a predictable result. Wolves were simply too good at that level and, as with Tottenham Hotspur this year, bounced straight back.

On Saturday's display, it was difficult to believe that the Midlanders had not only been the best side in the Second Division, but had scored 84 goals to win the title with an exciting brand of attacking football.

They finished ahead of both Nottingham Forest and Chelsea, so that last August there was every reason to suppose that they would do better than either this season.

This has not proved to be the case, as Forest, with the League Cup already in their possession, are striding towards their first-ever championship, while Chelsea are less precariously placed in the League and achieved more in cup ties.

Why have Wolves failed to adapt as well to promotion as the other two clubs? In the case of Forest, the answer is obvious. Brian Clough spent heavily and, more important, bought the right players to strengthen the team which only just gained promotion.

Chelsea, with their massive overdraft, could not afford to buy, but they had gone up with a young team who, by the nature of things, would inevitably improve.

Wolves believed that the form they had shown in the Second Division would prove successful in the First. As a result, they largely avoided the transfer market and decided to rely on the existing players, which contained several promising youngsters, such as Hazell.

With the enormous capital outlay needed if the large ground improvement scheme was ever to materialise, this policy made sense. But it failed, possibly because they have too many players who were able to shine in the lower Division, but lacked that extra spark needed for the top grade.

Although at the time it seemed a sensible deal to sell Sunderland to the Arsenal, he has subsequently and suddenly developed into an outstanding forward with a well-developed goal sense.

But, ironically, their newly-acquired striker, the much-travelled Rafferty, from Carlisle, has yet to establish the close rapport with Riches needed to produce goals.

Five successive defeats, injuries to their two most inventive footballers, Hibbitt and Carr, and an inevitable loss of confidence have all conspired to make the chances of Wolves accompanying Leicester and Newcastle down into the Second Division too real for comfort. They could also find it far more difficult to return.

No-risk Gloucester call tune in close tie with Leicester

RUGBY
BY PETER ROBBINS

THE JOHN PLAYER Cup has finally achieved the status it deserves, for a crowd of about 20,000 turned up in warm sunshine for the final between Gloucester and Leicester.

There was a lively pre-match carnival atmosphere that, however, was not carried over into the game itself, which Gloucester won 6-3.

I am all for healthy competition and I believe the players enjoyed this particular one, but the complex rules for qualifying need simplifying.

As Billy Beaumont, England's captain, said at a dinner on Friday, the sooner there is agreement on the form of competition within the regions, the better.

Leicester had their policy foisted on them because of Gloucester's strength in the pack. They had the aim of running the ball, where Gloucester took refuge in their obvious strengths and a policy of no risks.

It may be dull stuff, but it is efficient, and they may have been put off a more open game by one vehement tackle by Duggan on Butler, when the fullback came into the line. With such possession, though Gloucester could well have expanded their game, particularly towards Mogg on the left.

As in many games, the decisive factor was the performance of the tight forwards. Mills, with Burton's help, took the first scrum against the put-in, and later took two more in pressing defensive positions.

Burton had Needham in dreadful trouble, and Wheeler had to be at his quickest to get the ball at all. Fortunately for Leceister, he was in tremendous form.

Leicester half-coped with the drive from Boyle and Fidler, but nevertheless Kenney often got the ball in retreat. With the scrum almost conceded until later on, Leicester could not do anything about the line-out, where Fidler and Boyle did much as they pleased.

So Leicester were continually on the defensive, and it was their back row that kept them in the game, however tenuously, until the end. Then Barker's shortage of pace cost Leicester the dramatic winning try.

The speed of the Leicester back row gave chances to move the ball, and for Leicester to raise the pace of the game. Gloucester succeeded, however, in slowing things down, and a further setback to Leicester was Hare missing one moderately easy penalty and four other long ones.

Kenney, operating under great pressure, often had to act too hastily. This cost a try on half-time, when Jones could not take a hurried pass and Duggan was engulfed trying to retrieve the situation.

A clever long pass from Howell found Boyle, who thrust through, giving Mogg the slight chance he needed. Butler made it six points with a fine conversion.

Immediately after half-time Hare missed what could be termed a simple penalty, but then succeeded on the next occasion.

Ramirez in World Series finals

TENNIS
BY JOHN BARRETT

WITH ONE tournament to go in Houston this week, six of the eight men are certain of their places in the $200,000 World Series of Tennis finals in Dallas from May 9-14. The first prize is $100,000.

By winning the seventh of the eight-series tournaments at Monte Carlo on Saturday, Mexico's Raul Ramirez, the No. 5 seed, lifted himself from the seventh to equal third place—a position he shares with Eddie Dibbs (U.S.) on 370.

Ahead of them are Vitas Gerulaitis (U.S.) on 500, and Bjorn Borg (Sweden) on 420. Below them are Sandy Mayer (U.S.) with 350, Jimmy Connors (U.S.) with 330, and Ilie Nastase with 260.

Since Mayer is prevented by his Team Tennis contract from playing in Dallas, the other six are likely to be joined there by the two Americans, Brian Gottfried and Dick Stockton, the only two of the likely contenders who are playing this week in Houston.

On a perfect Mediterranean afternoon (a welcome change from earlier cold and rain) it took Ramirez only two hours to inflict a 6—3, 6—3, 6—4 beating on the surprise finalist, 21-year old Tomaz Smid of Czechoslovakia.

This was Smid's second defeat at the Mexican's hands in two weeks.

Both men had looked impressive here throughout the week. Smid had scored important wins against Ken Rosewall, the veteran Australian, Manuel Orantes, the No. 4 seed from Spain and, in the semi-final Italy's No. 6 seed Corrado Barazzutti.

Ramirez had his finest moment in the quarter final when he won 2—6, 6—0, 6—3 against the top seed and last year's Grand Prix champion Guillermo Vilas—his first win against the Argentine left-hander in 12 meetings.

Fired by this success, Ramirez survived magnificently in a tense semi-final against Gerulaitis, an American who was seeded No. 3.

The only danger to Ramirez in the finals came at the start of the second set. Smid led 2—0 and twice had points to lead 3—0. Two back-hand errors lost him the advantage and when his serve was broken to love in the following game he was never again seriously in contention.

The third set was settled on a single break of serve in the opening game. By now Ramirez, his mind already on the $30,000 first prize, was cruising and there was little that his relatively inexperienced opponent could do to stem the tide.

So Ramirez won his first major title of the year. Smid's reward for the most impressive week of his young career was $15,000, his largest prize to date.

Women make clean sweep in Badminton trials

HORSE TRIALS
BY MICHAEL DONNE

RIDING WARRIOR, Mrs. J. Holderness-Roddam, won the Badminton Horse Trials in Gloucestershire yesterday with 57.2 penalty points.

Women, in fact, made a clean sweep of the first four places. Miss Lucinda Prior-Palmer, riding Village Gossip (66.8 penalty points) was second, Miss Jean Starkey riding Topper Two (72.2 penalty points) was third and Miss Elizabeth Boone on Felday Farmer (79 penalty points) was fourth.

All these riders and horses are now likely to be included in the list of possible competitors for the British team for the world championship Three-Day Event in Kentucky in September.

At the end of the dressage phase of this year's trials, the top four riders were separated by only 15 points, the equivalent of three fences in the show jumping.

This meant that Mrs. Holderness Roddam, the overnight leader, could afford to have only one fence down and still win. In fact, she performed an impeccable clear round to win her second Badminton victory.

Lucinda Prior-Palmer, the European Three-Day Event champion, was trying for her fourth Badminton victory, and only just missed it.

She did a comparatively poor dressage phase, and was lying 18th, but stormed round the cross-country course on Saturday in magnificent style to gain second place, which she never lost.

One Thousand is wide open

RACING
BY DOMINIC WIGAN

WITH CHERRY HINTON'S disappointing lack-lustre display in Newbury's Fred Darling Stakes, we could see a large, and mainly second-rate, field for the One Thousand Guineas on May 4.

Several trainers to whom I have spoken feel that with Cherry Hinton clearly below par, there is everything to be gained and little to be lost from having a tilt at the first fillies' classic. It is difficult not to agree in most cases.

Spring in the Deep, who might have travelled to Ireland for their 1,000 Guineas, had Cherry Hinton excelled is now likely to join Luca Cumani's other intended home One Thousand Guineas runner, Lily Marlene and Modella, provided that she comes though her preliminary in the Free Handicap satisfactorily.

Glinting will also be in the big race line-up provided that she pleases in her first outing of the season, in the Nell Gwynne on Thursday.

Little light was shed on the first colts' classic in the Greenham on Saturday, in which the ultra-consistant Derrylin—winning his sixth successive race—got home from Weth Nan, with Double Form third.

The winner, trained by Doug Smith whose stable has been having a particularly lean time in recent seasons, is clearly an extremely tough and resolute colt.

However, he has done nothing since beating a backward Camden Town in Ascot's Clarence House Stakes to suggest that he will prove capable of bustling up Try My Best on May 6. Even at 25-1, he does not strike me as an attractive each-way proposition.

A better win and place bet could be Double Form, who did not see much daylight in the hands of Lester Piggott until well inside the final furlong.

Not given a needlessly hard race once it was clear that the two leaders had gone beyond recall, Double Form, backed from 4-1 to almost half those odds, kept on well enough to take third place.

There is plenty of improvement in him as would be expected of a big still slightly unfurnished colt having only his first race, and 1½ miles at Epsom may not be beyond him.

BRIGHTON
1.45—Allez Vite
2.15—Roaring Twenties
2.45—Whistlefield***
3.15—Rhineland**
3.45—Tierra Fuego
4.15—Sweet Relief*

TV/Radio

† Indicates programme in black and white

BBC 1

6.40-7.55 a.m. Open University. 9.38 For Schools, Colleges. 10.45 You and Me. 11.22 For Schools, Colleges. 12.45 p.m. News. 1.00 Pebble Mill. 1.45 Camberwick Green. 2.01 For Schools, Colleges. 3.15 Songs of Praise. 3.52 Regional News for England (except London). 3.55 Play School (as BBC2 11.00 a.m.). 4.20 Tarzan Lord of the Jungle. 4.40 Cheggers Plays Pop. 5.05 John Craven's Newsround. 5.10 Blue Peter.
5.40 News.
5.55 Nationwide (London and South-East only).
6.20 Nationwide.
6.55 Ask the Family.
7.20 Angels.
8.10 Panorama.
9.00 News.
9.25 The Trial of Lee Harvey Oswald, Part 2.
10.55 To-night.
11.35 Weather/Regional News.

All Regions as BBC1 except at the following times:—

Wales—1.45-2.00 p.m. Pili Pala. 2.18-2.40 For Schools. 5.55-6.20 Wales To-day. 6.55-7.20 Heddiw. 11.35 News and Weather for Wales.

Scotland—5.55-6.20 p.m. Reporting Scotland. 10.55 Public Account. 11.30 News and Weather for Scotland.

Northern Ireland—3.53-3.55 p.m. Northern Ireland News. 5.55-6.20 Scene Around Six. 11.35 News and Weather for Northern Ireland.

England—5.55-6.20 p.m. Look East (Norwich); Look North (Leeds, Manchester, Newcastle); Midlands To-day (Birmingham); Points West (Bristol); South To-day (Southampton); Spotlight South West (Plymouth).

BBC 2

6.40-7.55 a.m. Open University.
11.00 Play School.
4.55 Open University.
7.00 News on 2 Headlines.
7.05 Children's Wardrobe.
7.30 Newsday.
8.15 Johnny Mathis in Concert.
9.00 Pickersgill People.
10.00 Snooker: Embassy World Professional Championship.
10.55 Arena: Television.
11.45 Late News on 2.
11.55-12.05 a.m. Closedown: John Rye reads "Anthropos Feels His Age," by D. J. Enright.

LONDON

9.30 a.m. Schools Programmes. 12.00 Jamie and the Magic Torch. 12.10 p.m. Rainbow. 12.30 Drive-In. 1.00 News plus FT index. 1.20 Help! 1.30 About Britain. 2.00 After Noon. 2.25 Monday Matinee: "Dangerous When Wet." 4.20 Clapperboard. 4.45 The Feathered Serpent. 5.15 Batman.
5.45 News.
6.00 Thames at 6.
6.40 Help!
6.45 Whodunnit?
7.30 Coronation Srteet.
8.00 Devenish.
8.30 World in Action.
9.00 Rumpole of the Bailey.
10.00 News.
†10.30 The Big Film: "Five Branded Women," starring Van Heflin, Silvano Mangano and Vera Miles.
12.25 a.m. Close: Robert Rietti reads a prayer for the Passover.

All IBA Regions as London except at the following times:—

ANGLIA

12.30 p.m. Out of Town. 1.25 Anglia News. 2.00 Houseparty. 2.25 Family. 3.20 George Hamilton IV. 3.50 In Search of ... Inca Treasure. 5.15 University Challenge. 6.00 About Anglia. 10.30 Lifestyle. 11.00 TV Movie: "Terror On The Beach." 12.25 a.m. Reflection.

ATV

12.30 p.m. Gardening Today. 1.20 ATV Newsdesk. †2.25 Movies to Remember: "Anna Karenina" starring Vivien Leigh and Ralph Richardson. 5.15 University Challenge. 6.00 ATV Today. 10.30 Left, Right and Centre. 11.00 Columbo. 12.25 a.m. Something Different.

BORDER

12.30 p.m. Gardening Today. †1.20 Border News. 2.00 Houseparty. 2.25 Matinee: "The Truth About Spring." 5.15 Garnock Way. 6.00 Lookaround Monday. 6.15 University Challenge. 10.30 An Audience with Jasper Carrott. 11.00 McMillan and Wife. †12.40 a.m. Border News Summary.

CHANNEL

1.18 p.m. Channel Lunchtime News and What's on Where. †2.25 The Monday Matinee: "A Patch of Blue." 5.15 University Challenge. 6.00 Channel News. 6.10 Charlie Chan and the Chan Clan. 8.00 Rising Damp. 10.28 Channel Late News. 10.32 A Little Goes A Long Way. †11.00 Late Night Movie: "The Private Life of Henry VIII." 12.35 a.m. News and Weather in French followed by Channel Gazette.

GRAMPIAN

9.25 a.m. First Thing. 1.20 p.m. Grampian News Headlines. 2.25 Monday Matinee: "After the Fox" starring Peter Sellers. 5.15 University Challenge. 6.00 Grampian Today. 6.15 S T U C. Conference Report. 6.25 Cartoon Time. 10.30 Reflections. 10.35 Feature Film: "Fraulein Doktor" starring Suzy Kendall.

GRANADA

12.30 p.m. How to Stay Alive. 1.20 Dodo. 2.25 Monday Matinee: "In Tandem." 3.50 Beryl's Lot. 5.15 University Challenge. 6.00 Granada Reports. 6.25 This Is Your Right. 10.30 Reports Politics. †11.00 Monday Film Premiere: "The Cross of Lorraine"

HTV

12.30 p.m. Landscape. 1.20 Report West Headlines. 1.25 Report Wales Headlines. 2.00 Houseparty. 2.25 The Monday Matinee: "House of Bamboo." 5.15 University Challenge. 6.00 Report West. 6.22 Report Wales. 10.35 The Monday Film: "Candy" starring Marlon Brando.

HTV Cymru/Wales—As HTV General Service except: 1.20-1.25 p.m. Penawdau Newyddion y Dydd. 2.00-2.25 Hamdden. 6.00-6.22 Y Dydd. 10.35-11.05 Yr Wythnos.

HTV West—As HTV General Service except: 1.20-1.30 p.m. Report West Headlines. 6.22-6.45 Report West.

SCOTTISH

12.30 p.m. Gardening Today. 1.25 News and Road Report. †2.25 Monday Matinee: "The Hour of 13" starring Peter Lawford. 3.50 Beryl's Lot. 5.15 University Challenge. 6.00 Scotland Today. 6.30 Crimedesk. 10.30 The Andy Williams Show. 11.00 From the Top. 11.30 Late Call. 11.35 The Prisoner.

SOUTHERN

12.30 p.m. Farm Progress. 1.20 Southern News. 2.00 Houseparty. 2.25 Monday Matinee: "The Desperate Miles." 3.50 Beryl's Lot. 5.15 Mr. and Mrs. 6.00 Day by Day. 10.30 Man and Woman. 11.00 Southern News Extra. 11.10 Late Night Movie: Lanigan's Rabbi.

TYNE TEES

9.25 a.m. The Good Word followed by North East News Headlines. 12.30 p.m. Last of the Wild. 1.20 North East News. Lookaround. 2.25 Power Without Glory. 3.20 The Generation Scene. 3.35 The Little Rascals. 3.50 Beryl's Lot. 5.15 University Challenge. 6.00 Northern Life. 6.40 Police Call. 10.30 Lifestyle. 11.00 Danger in Paradise. 12.00 Epilogue.

ULSTER

1.20 p.m. Lunchtime. 4.00 See You Monday. 2.30 Monday Matinee: "Bridal Path." 4.18 Ulster News Headlines. 5.15 University Challenge. 6.00 Ulster Television News. 6.05 The Partners. 6.30 Reports. 10.30 Two at 10.30. 10.40 Review. 11.10 Within Those Walls. 12.05 a.m. Bedtime.

WESTWARD

12.27 p.m. Gus Honeybun's Birthdays. 1.20 Westward News Headlines. †2.25 The Monday Matinee: "A Patch Of Blue" starring Sidney Poitier. 5.15 University Challenge. 6.00 Westward Diary. 6.25 Sports Desk. 8.00 Rising Damp. 10.28 Westward Late News. 10.30 Politics West. †11.00 Late Night Movie: "The Private Life Of Henry VIII" starring Charles Laughton. 12.35 a.m. Faith for Life.

YORKSHIRE

12.30 p.m. How to Stay Alive. 1.20 Calendar News. 2.25 Family. 3.20 Music at Harewood. 3.50 Beryl's Lot. 5.15 University Challenge. 6.00 Calendar (Emley Moor and Belmont editions). 10.30 Lifestyle. 11.00 Police Woman.

RADIO 1 247m

(S) Stereophonic broadcast

5.00 a.m. As Radio 2. 7.02 Noel Edmonds. 9.00 Simon Bates. 11.31 Paul Burnett including 12.30 p.m. Newsbeat. 2.00 Tony Blackburn. 4.31 Kid Jensen including 5.30 Newsbeat. 7.30 Alan Dell (joins Radio 2). 10.02 John Peel (S). 12.00-2.02 a.m. As Radio 2.

VHF Radios 1 and 2—5.00 a.m. With Radio 2, including 1.55 p.m. Good Listening. 10.00 With Radio 1. 12.00-2.02 a.m. With Radio 2.

RADIO 2 1,500m and VHF

5.00 a.m. News Summary. 5.02 Ray Moore with The Early Show (S) including 6.15 Pause for Thought. 7.32 Terry Wogan (S) including 8.27 Racing Bulletin and 8.45 Pause for Thought. 10.02 Jimmy Young. 12.15 p.m. Waggoners' Walk. 12.30 Pete Murray's Open House (S) including 1.45 Sports Desk. 2.30 David Hamilton (S) including 2.45 and 3.45 Sports Desk. 4.30 Waggoners' Walk. 4.45 Sports Desk. 4.47 John Dunn (S) including 5.45 Sports Desk. 6.45 Sports Desk. 7.02 BBC Northern Radio Orchestra (S). 7.30 Alan Dell: 7.30 The Dance Band Days. 8.02 The Big Band Sound (S). 9.02 Humphrey Lyttelton with The Best of Jazz on records (S). 9.55 Sports Desk. 10.02 The Monday Movie Quiz. 10.30 Star Sound. 11.02 Brian Matthew introduces Round Midnight, including 12.00 News. 2.00-2.02 News Summary.

RADIO 3 464m, Stereo & VHF

†Medium Wave only

†6.55 a.m. Weather. 7.00 News. 7.05 Overture (S). 8.00 News. 8.05 Morning Concert (S). 9.00 News. 9.05 This Week's Composer: Ravel (S). 9.40 Talking About Music (S). 10.10 Piano Recital (S). 10.50 Jennifer Smith song recital (S). 11.30 Midday Concert, part 1 (S). 12.15 p.m. In Short (talk). 12.25 Concert, part 2: Sibelius. 1.00 News. 1.05 BBC Lunchtime Concert (S). 2.10 Matinee Musicale (S). 3.10 Organ Recital of Framlington Church (S). 3.55 Yfrah Neaman violin recital (S). 4.45 New Records of music by Chausson (S). 5.15 Bandstand (S). †5.45 Homeward Bound. †6.05 News. †6.10 Homeward Bound (continued). †6.30 Lifelines: Home and Family. 7.30 Music for Harpsichord by Purcell, Powell, Scarlatti (S). 8.30 Henze concert, part 1 (S). 9.20 Judging the Judges. 9.40 Henze concert, part 2 (S). 10.25 Among the Witnesses. 11.00 Jazz in Britain: Elton Dean's Ninesense (S). 11.30 News. 11.35-11.40 Tonight's Schubert Song on record (1837).

Radio 3 VHF only—6.00-7.00 a.m. and 5.45-7.30 p.m. Open University.

RADIO 4

434m, 330m, 285m and VHF

6.15 a.m. News. 6.17 Farming Week. 6.35 Up to the Hour. 7.00 News. 7.10 Today. 7.35 Up to the Hour (continued). 8.00 News. 8.10 Today including 8.35 News headlines, weather, papers, sport. 8.45 John Ebdon with the BBC Sound Archives. 9.00 News. 9.05 Start the Week with Richard Baker. 9.55 Roy Hay. 10.00 News. 10.05 Wildlife. 10.30 Daily Service. 10.45 Morning Story. 11.00 News. 11.05 Southall- Ground for Hope? —a look at a London suburb. 11.50 Announcements. 12.00 News. 12.02 p.m. You and Yours. 12.27 Brain of Britain 1978. 12.55 Weather, programme news. 1.00 The World at One. 1.30 The Archers. 1.45 Woman's Hour including 2.00-2.02 News. 2.45 Listen with Mother. 3.00 News. 3.05 Afternoon Theatre (S). 4.35 Story Time ... the Gar... gramme news. 6.00 News. 6.30 The Enchanting World of Hinge and Bracket. 7.00 News. 7.05 The Archers. 7.20 From Our Own Correspondent. 7.45 The Monday Play (S). 9.15 A Sideways Look at ... forests. 9.30 Kaleidoscope. 9.59 Weather. 10.00 The World Tonight. 10.30 Profile. 11.00 A Book at Bedtime. 11.15 The Financial World Tonight. 11.30 Today in Parliament. 12.00 News.

BBC Radio London

206m and 94.9 VHF

5.00 a.m. As Radio 2. 6.30 Rush Hour. 9.00 Weekly Echo. 9.20 London Live. 11.03 In Town. 12.03 p.m. Call In. 2.03 206 Showcase. 4.03 Home Run. 6.10 Look, Stop, Listen. 7.30 In Town (as 11.03 a.m.). 8.30 Breakthrough. 10.03 Late Night London. 12.00 As Radio 2. 12.05 a.m. Question Time from the House of Commons. 1.00—Close: As Radio 2.

London Broadcasting

261m and 97.3 VHF

5.00 a.m. Morning Music. 6.00 A.M.: non-stop news, travel, sport, reviews, information. 10.00 Brian Hayes. 1.00 p.m. LBC Reports including George Gale's 3 O'clock Call. 8.00 After 8—with Ian Gilchrist. 9.00 Nightline. 1.00-5.00 a.m. Night-Extra with Adrian Scott.

Capital Radio

194m and 95.8 VHF

6.00 a.m. Graham Dene's Breakfast Show (S). 9.00 Michael Aspel from Europe 1 in Paris (S). 12.00 Dave Cash (S). 3.00 p.m. Roger Scott (S). 7.00 London Today (S). 7.30 Adrian Love's Open Line (S). 9.00 Nicky Horne's Mummy's Weekly (S). 11.00 Tony Myatt's Late Show (S). 2.00 a.m. Peter Young's ...

F.T. CROSSWORD PUZZLE No. 3,644

ACROSS

1 Certain to be in pain with facial adornment (8)
5 An officer flies aboard (6)
9 "By laughing shallow and — pool" (Kingsley) (8)
10 Rod gets back at the fair (6)
11 Most pleasant little river flowing from the South (8)
12 Mother Carey's chick can have a stormy start (6)
14 We must have high commanders in the ATS and damn the expense (2, 3, 5)
18 Avail oneself of some bread and show intelligence (3, 3, 4)
22 Fat, but may be made to give light (6)
23 National emblem for a mister in emotional disturbance (8)
24 Satirical direction in Grecian style of architecture (6)
25 "Will take from both a deep — tone" (Shelley) (8)
26 It means to be in pain we have to allow (6)
27 No sets of garlands require arranging (8)

DOWN

1 Unassuming good man follows the fashion (6)
2 Quarrels — but they are all part of the act (6)
3 Lets in one thousand in the passages (6)
4 What a whipped cur does, we hear, but there is more to it (5, 5)
6 They don't give the old coppers a look in (3, 5)
7 Concern with return (8)
8 He does not believe in anything (8)
13 Cold Commons in novel form (5, 5)
15 Draperies? That's the end (8)
16 Rebukes when Wilhelm's gone (5, 3)
17 To speculate makes Kojak revolt (8)
19 The resulting sum when a relative gets the doctor in (6)
20 Oberon's troubled island (6)
21 Forms of expertise that old Bob destroys (6)

The solution of last Saturday's prize puzzle will be published with names of winners next Saturday.

New York Opera

Campus and Concert

New York, without a BBC, without a Camden Festival, without an Opera Rara, without an Oxford, Cambridge, Reading and Bristol within easy reach, is a poorer place for opera than is London. But the music colleges do do something. At the Juilliard last month Martin Isepp, director of its opera department, conducted a pretty and touching performance of the Cavalli-Leppard *La Calisto*, and at the Manhattan School of Music there was a sparkling performance of Nino Rota's *The Italian Straw Hat*.

John Crosby is both president of the Manhattan School and director of the Santa Fe Opera (perhaps the nearest thing to Glyndebourne that America has). Costumes and production for the Rota came from Santa Fe. Crosby himself conducted; Lou Galterio, one of America's ablest opera producers, put the students through deft, accomplished paces. The opera is a romp and musically quite undistinguished; while better—and more adventurous—works by Bizet, Offenbach, and Wolf-Ferrari remain unrevived there is no need for any regular company to contemplate it. But it makes a good student exercise, having many effective small roles, and it provided a merry evening.

The Juilliard maintains a deliberately "professional" atmosphere; the Manhattan has more of the exhilarating feel of a music school, and I have enjoyed many shows there: *Königskinder*, *Paul Bunyan*, *I quattro rusteghi*. The building, uptown near Columbia University and Riverside Church, used to house the Juilliard before it moved to Lincoln Center, and in those days it became celebrated for such things as *Jenufa* and *Elegy for Young Lovers*, directed by Christopher West. Mannes, another music college, put on a very pretty *Iolanta* last season, when Risë Stevens was its president. But now Miss Stevens has resigned, and the opera department has contracted.

Concert opera also helps to fill the gaps, and the chief provider is Eve Queler, conductor of the Opera Orchestra of New York, which performs in Carnegie Hall. Thanks to her, I have heard, with grand international casts, such things as *Francesca da Rimini* (Kabaiwanska, Domingo), *Le Cid* (Bumbry, Domingo), *Edgar* (Scotto, Bergonzi), *Gemma di Vergy* (Caballé), and *I lombardi* (Scotto, Carreras). This season she began with *Oberon*. Roberta Knie was to have made her New York début as Reiza but she was ill; Betty Jones filled the role ably, with very secure if not very appealing tones. Gedda was a confident Huon. The loveliest singing came from Carmen Balthrop (who made her name on Broadway in the Houston Opera's production of Scott Joplin's *Treemonisha*) as first—and second—mermaid.

Oberon was an enchantment. This bewitching score—how can Covent Garden so long have resisted reviving a score which was composed for them?—was shaped with the feeling for colour, emotion, and expression which marks all Miss Queler's performances. It was done in German translation (which was a pity), and all the spoken dialogue was omitted (which makes sense in a concert performance). A bilingual libretto provided as much of Planché as was needed to set the magical musical numbers in context.

Queler's second offering was Rossini's *Tancredi*, in Philip Gossett's critical edition with the Ferrara "tragic" ending and with Marilyn Horne in the title role. In these pages I have already reviewed it from Houston, and William Weaver has from Rome. Once again, Miss Horne sang the closing arioso-recitative far too slowly and made it seem dull, and she decorated her lines to an extent where scarcely a bar was left as Rossini wrote it. Too much: the flow of the opera was held up by scalic or roulade bravura at every passing cadence, even if the singer herself was astounding in her virtuosity.

Katia Ricciarelli sang Amenaide. I had never seen her in concert before; she seemed to be Alice-in-Wonderland wearing her first long dress, and there is something about her—sincerity, lack of pretension, determination to do the very best she can—that is very winning. In Amenaide's romantically straightforward preghiera she was excellent; with florid music she must struggle.

The Arion recording of *Tancredi* made with young British singers—Patricia Price, Hannah Francis, Keith Lewis—and simply, accurately, and limpidly sung leaves one with the feeling: "What a beautiful opera! How one would like to hear someone like Horne do it." But when Horne and company do do it, one feels: "What a lot of diddle-diddle!" The critic who is satisfied, Shaw once said, is lost. So I'll remain unsatisfied until I hear a *Tancredi* performance that unites the Arion accuracy with the Horne flash and fire.

ANDREW PORTER

Mark Jacoby, Mary Wilkinson and Richard Harrell in the Manhattan School of Music production of 'Italian Straw Hat'

Leonard Burt

Emrys James as York and Helen Mirren as Margaret in Part III of 'Henry VI'

Aldwych

Henry VI

by B. A. YOUNG

To see the three parts of Shakespeare's *Henry VI* all in one day dispels what remains, after seeing the plays on consecutive evenings at Stratford last summer, of my reservations about their quality. They are not, seen like this, sprawling or inexpert. On the contrary, they make up a serial tale that is told with uncommon craft, the variety of the chosen scenes from history (as recounted by Hall, Holinshed and Fabyan) building into a story as well made as you could ask. There will never again be any excuse for juggling with the plays as Peter Hall and John Barton juggled with them 15 years ago. On the other hand there would be little profit in presenting any of the three parts without the ability to see the other two: and ideally it should be possible to see *Richard III* afterwards.

This does not mean that only richly subsidised companies can mount the plays, for Terry Hands demonstrates in this masterly production that small casts and little scenery are a positive advantage. Sweet are the uses of adversity; they have driven the Royal Shakespeare Company into a truly Shakespearean style.

To my mind this is the best Shakespeare production I have ever seen. There is no scenery, no more than a token growth of grass; but there is a spare yet powerful use of props—cannon mostly in Part I, where the war is on an international scale, the Throne and the benches of Parliament in the other parts, but quite often nothing—and there are fine costumes devised so that the wearer is always recognisable.

This last point is important, for Mr. Hands having no great armies of extras to fill out his battle-scenes, important battles are fought only by the principals. There is thus no interruption in the narrative. In Part III, for instance, before the battle at Towton, Henry has been asked to leave the field ("the Queen hath best success when you are absent"). He insists on staying, but sits apart in a corner of the stage; and he stays there throughout the ensuing alarum and excursions until a lull enables him to speak his thoughts about the delights of rural life (somewhat too colourfully done by the generally admirable Alan Howard) and to overhear the laments of the son who has killed his father and the father who has killed his son. The action is fast and continuous from "Hung be the heavens with black" to "Here, I hope, begins our lasting joys."

The production has been enriched during its Stratford run by some telling touches of detail and some deeper characterisation. Joan la Pucelle has lost her manic giggles; Charlotte Cornwell's red-haired tomboy is now as credible a Joan as Shaw's, though painted in different colours. (Twice Shakespeare predicts—in 1591!—that the French will have her made a saint.) Helen Mirren allows her Margaret to mature more than she did. It is part of Mr. Hands's system to keep the characters instantly recognisable: Margaret wears the same parti-coloured dress at her coronation as at her capture by Suffolk on the field at Angiers. But she has now made herself much more the fighting Queen in the civil wars than heretofore. It is a grandly chilling performance, most memorable, naturally, in the capture and assassination of York (Emrys James).

Alan Howard's Henry, too, grows up more convincingly. I have no space, alas, to give credit wherever credit is due; I must mention only briefly Julian Glover's towering Warwick, Graham Crowden's Gloucester, David Swift's Talbot, Anton Lesser's Richard, all of them notable. One performance though, is quite exceptional—Peter McEnery's Suffolk, superbly spoken, gracefully played, outstandingly intelligent. Mr. McEnery is our best Shakespearean actor since Richard Burton, no question about it.

St. Marylebone Parish Church

Tallis Festival

by RONALD CRICHTON

The Tallis Scholars returned to Marylebone on Saturday for the third concert in their Festival series with another programme expertly chosen to show the range and versatility of this major English composer. The larger works given included four sections, performed in two groups of two sections each, from the parody Mass *Salve intemerata virgo* as well as the antiphon of the same name on which the Mass is based.

Respite from the long, austerely adventurous lines of polyphony came with shorter, homophonic motets or hymns, some of which embody verses in plainsong, equally restful to the ears of listeners and, no doubt, to the throats of singers. The Scholars, who must have sung, in the course of a single concert, the equivalent of several cathedral services, were tireless. The sopranos remained true and limpid: the male alto tone was occasionally obtrusive in chordal music but the quality that made it so ensured a strong line in polyphonic writing.

In the long run, the use of high pitches produces a curious effect of wakelessness. The lower lines are, of course, perfectly audible, but the particular kind of comfortable pathos attaching to deep bass tone (at its most suspect in Russian Orthodox music) is lacking. The result, far from being sentimentally ethereal, actually helps to concentrate attention. The final concert of the series takes place at St. John's Smith Square, on April 29, when the programme includes Tallis' famous 40-part motet *Spem in alium*.

Elizabeth Hall

Music Group of London

by RONALD CRICHTON

Dvorak's Dumky Trio and Brahms's Horn Trio in E flat, the main works in the Music Group of London's programme last night, each have unusual features. Dvorak's Trio pays virtually no homage to sonata form at all, being a six-fold succession of shortish movements based on dance-song models and subtly varied. Brahms opens with a slow movement in ternary form, and follows this with an extended scherzo, a second slow movement and an uproarious hunting-finale.

Both went well. About the Dvorak there was a certain aura of manly English self-control in both the sadness and the bursts of activity, yet the quality and quantity of the composer's unfailing invention both in melody and scoring were continually apparent, notably in Eileen Croxford's incisive cello line. Alan Civil played the horn part in the Brahms, and marvellous it sounded—the Elizabeth Hall acoustics get knocked so often that it is a pleasure to point to one instrument that positively blossoms there.

Though it does not always come off as well as this, the Horn Trio is one of Brahms's most irresistible masterpieces. To go no further, both slow movements are of extraordinary beauty, especially the second. Few of the romantic composers plumbed such depths of wondering grief with such entire lack of self-pity as Brahms did in this Adagio mesto. The opener was Bartok's *Contrasts*. Keith Puddy's playing of the clarinet part was remarkable. Piano (David Parkhouse) and violin (Ralph Holmes) were dapper but not quite pithy or biting enough—they had two major works to come, while *Contrasts* was the clarinet's only outing.

CCMC debut in London

The Canadian Creative Musicians Collective, a free music orchestra and composing ensemble which has been playing in Toronto since 1974, makes its London debut on Sunday, April 30, at the ICA Theatre, in the Mall.

This is a Jazz Centre Society presentation in association with the cultural affairs section of the Canadian High Commission and the Institute of Contemporary Arts. Tickets are £1.50 plus 25p temporary ICA membership.

FINANCIAL TIMES

BRACKEN HOUSE, 10, CANNON STREET, LONDON EC4P 4BY

Telex: Editorial 886341/2, 883897 Advertisements: 885033 Telegrams: Finantimo, London PS4

Telephone: 01-248 8000

For Share Index and Business News Summary in London, Birmingham, Liverpool and Manchester, Tel: 246 8026.

INTERNATIONAL AND BRITISH OFFICES

EDITORIAL OFFICES

Amsterdam: P.O. Box 1296, Amsterdam-C. Telex 12171 Tel: 240 555
Birmingham: George House, George Road. Telex 338650 Tel: 021-454 0922
Bonn: Presshaus II/104 Heussallee 2-10. Telex 8869542 Tel: 210039
Brussels: 39 Rue Ducale. Telex 23283 Tel: 512-9037
Cairo: P.O. Box 2040. Tel: 938510
Dublin: 8 Fitzwilliam Square. Telex 5414 Tel: 785321
Edinburgh: 37 George Street. Telex: 72484 Tel: 031-226 4120
Frankfurt: Im Sachsenlager 13. Telex: 416263 Tel: 555730
Johannesburg: P.O. Box 2128. Telex 8-6257 Tel: 838-7545
Lisbon: Praca da Alegria 58-1D, Lisbon 2. Telex 12533 Tel: 362 508
Madrid: Espronceda 32, Madrid 3. Tel: 441 6772
Manchester: Queens House, Queen Street. Telex 666813 Tel: 061-834 9381
Moscow: Sadovo-Samotechnaya 12-24, Apt. 15. Telex 7900 Tel: 294 3748
New York: 75 Rockefeller Plaza, N.Y. 10019. Telex 66390 Tel: (212) 541 4625
Paris: 36 Rue du Sentier, 75002. Telex 220044 Tel: 236.5743
Rio de Janeiro: Avenida Pres. Vargas 418-10. Tel: 253 4848
Rome: Via della Mercede 55. Telex 61032 Tel: 678 3314
Stockholm: c/o Svenska Dagbladet, Raalambsvagen 7. Telex 17603 Tel: 50 60 88
Tehran: P.O. Box 11-1879. Telex 212634 Tel: 682698
Tokyo: 8th Floor, Nihon Keizai Shimbun Building, 1-9-5 Otemachi, Chiyoda-ku. Telex J 27104 Tel: 241 2920
Washington: 2nd Floor, 1325 E. Street, N.W., Washington D.C. 20004 Telex 440225 Tel: (202) 347 8676

ADVERTISEMENT OFFICES

Birmingham: George House, George Road. Telex 338650 Tel: 021-454 0922
Edinburgh: 37 George Street. Telex 72484 Tel: 031-226 4139
Frankfurt: Im Sachsenlager 13. Telex 16263 Tel: 554667
Leeds: Permanent House, The Headrow. Tel: 0532 454969
Manchester: Queens House, Queens Street. Telex 666813 Tel: 061-834 9381
New York: 75 Rockefeller Plaza, N.Y. 10019 Telex 423025 Tel: (212) 489 8300
Paris: 36 Rue du Sentier, 75002. Telex 220044 Tel: 236.86.01
Tokyo: Kasahara Building, 1-6-10 Uchikanda, Chiyoda-ku. Telex J 27104 Tel: 295 4050

SUBSCRIPTIONS

Copies obtainable from newsagents and bookstalls worldwide or on regular subscription from Subscription Department, Financial Times, London.

Wigmore Hall

Fernando Valenti

by DAVID MURRAY

The harpsichordist Fernando Valenti gave Master Classes all last week at the New Gallery, and a recital of Bach and Scarlatti at the Wigmore Hall on Saturday. Little of his vast recorded repertoire is distributed in Britain, so this visit was particularly welcome.

More Bach had been promised initially than in the event we got: the E minor Toccata was traded in for four extra Scarlatti sonatas, no doubt because the Master Classes have been devoted to the latter composer. Valenti began by dispatching six of Bach's Little Preludes with energetic lucidity, and proceeded later to the B-flat Partita. Valenti favours a broad and majestic sound in Bach—grand public presentation rather than study-scale playing—but alive with rhythmic vigour. His springing touch needs no extra colour from tricks of registration, and each movement had its own muscular character. The measured pomp of the Praeludium was as spirited as the brilliant rush of the Gigue.

In Bach, Valenti preserved a properly strict beat, and the four Scarlatti sonatas he placed between the Bach works had something of the same severity of outline. The further eight which occupied the second half of the programme took on greater expansiveness. Valenti exercises a splendid freedom and flair in Scarlatti which rings utterly true: just the sort of performance, one feels, was what the music was imagined for (if not perhaps on so sumptuous an instrument). Scarlatti suffers by being assigned a German Baroque pulse. Individual fancies are perfectly in place when they are carried over a confidently flexible stride like Valenti's. He concluded with a magnificent virtuoso assault on the last of his chosen sonatas—none of which he identified for us, on the sensible ground that with Scarlatti there's no helpful way of doing that; but in his performances the identity of each was vivid as could be.

Ronnie Scott's

Earl Hines

by KEVIN HENRIQUES

The truly incomparable Earl Hines is back at Ronnie Scott's (until Saturday) playing the piano with the sort of high-energy voltage, dynamism and swing that probably only one other player living is capable of matching. Though now in his seventies, Hines can still toss off a hell-for-leather "Rosetta" and "Tea for two" with aplomb and unquenchable inventiveness. That two-handed attack — tremolo right hand, bass figures pumped gushingly from the left, plus those cross-tempi—is as potent as ever. Of course, the style he created in the 1920s, which inspired so many other pianists, has changed, improved and finally become refined into the masterly playing we hear to-day.

That said, it must be admitted that on the evidence of last Friday's two sets there is far less of Hines on piano than on his previous visits. Promisingly he opened the first set alone but it was not long before his accompanying musicians joined his on the stand. Together they romped through numerous familiar songs, including a clutch of Duke Ellington tunes and a selection from *Showboat* which Hines introduced with irresistible geniality and a flair for presentation at which he is vastly experienced.

For instance singer Marva Josie with a wide range and oozing warmth, made her entrance singing from the depths of the audience. Reedman Eric Schneider signalled his presence with a dramatic clarinet chord hit off-stand. Drummer Ed Graham, in an over-long, gallery pleasing solo, suddenly produced luminous sticks in the darkened club as the strobe lighting flickered irritatingly. Later Graham toured among the club clientele, hitting everything in sight with his sticks.

Such frivolity at the expense of more extended solos from Hines himself will probably make selfish purists squirm with disappointment and despair. But it is important for them to remember that like so many other top jazz musicians—Louis Armstrong, Fats Waller, Dizzy Gillespie, Duke Ellington and Count Basie, to name a few—Hines has always believed in entertaining and playing jazz.

Elizabeth Hall

Alban Berg Quartet

by ARTHUR JACOBS

If not "arrogant," as an indignant American visitor called it, it was certainly inconsiderate of the Alban Berg Quartet to replace the "Hunt" Quartet of Mozart by Bartok's No. 2. Concert-goers who had chosen to spend Sunday afternoon with one might not have chosen to do so with the other. Although a "misunderstanding" about the programme was pleaded from the platform it was hardly conceivable that an ensemble from Vienna should have no other Mozart (or Haydn) available as a replacement, if the "Hunt" was really not ready.

On its own terms the Bartok quartet was most convincingly presented. The smoothness in the performers' tone—something which may be considered characteristically Viennese—did not lessen the asperities in the composer's harmony, but rather complemented it. The dashing vigour of the "scherzo"-like movement came off no less well than the intensity of the final moments of the work. After this the delicate lilt of Hugo Wolf's *Italian Serenade* made a brief and apposite contrast.

This is a young ensemble, which made its debut as recently as 1971 and has suffered one change (the second violist) since then. Its accuracy, unanimity and well-shaded expression in Beethoven's first *Rasumovsky* quartet affirmed its place among the leading string quartets of its generation. The climax of the first movement, where the composer dramatically shifts the stresses of the theme on to the off-beats, was particularly fine. In the second movement the players should guard against the masking of an important thematic strand by one less important.

As an encore, Mozart rather apologetically crept back with a single movement—the minuet from K.428 in E flat. But the leader blotted the opening emphatic note, and the decision to abandon the minuet's dance-like quality and to play it with rather wayward expression did not justify itself.

FINANCIAL TIMES
BRACKEN HOUSE, CANNON STREET, LONDON EC4P 4BY
Telegrams: Finantimo, London PS4. Telex: 886341/2, 883897
Telephone: 01-248 8000
Monday April 17 1978

The cost of redundancy

THE BRITISH Steel Corporation has been making good progress in negotiating terms for the early closure of its highest-cost plants including those whose demise had been deferred as a result of the Beswick review. The redundancy deal agreed last week for the end of steel making at Ebbw Vale follows a similar agreement a month ago at the East Moors works in Cardiff and others at Hartlepool and at Clyde Iron in Scotland towards the end of last year. But while the closure of old facilities will make a useful contribution to a reduction in the Corporation's losses, which are now estimated to have totalled £440m. in the financial year just ended, an even more important part of BSC's cost-saving programme is the need for improved productivity and better manning standards at its other plants.

Backing

Here, too, there are some encouraging signs. The introduction of productivity schemes at plants such as Port Talbot is already having some effect. The BSC's efforts to introduce such schemes had been frustrated by the two previous phases of the Government's incomes policy under the terms of which productivity bargaining had been precluded. But in an agreement earlier this year the Iron and Steel Trades Confederation committed itself to the negotiated introduction of local job measurement and incentive schemes as well as to other important arrangements including improved procedures for disputes and for agreeing manning levels at new plants.

These commitments have yet to be translated into action at local level, and similar agreements have yet to be made with other unions involved in the industry. But the Steel Corporation should now be able to count on the firm backing of the Government. Last month's White Paper not only marked the abandonment of the idea of job preservation which underlay the Beswick plan; it also expressed the Government's "full, sustained and public support to the BSC in its efforts, including the steps needed to achieve much needed improvement in productivity." Neither trade union leaders nor local action groups will be able to use Ministers as a convenient back door through which decisions of management can be overturned.

The redundancy agreements reached at Ebbw Vale and other plants shows that local employees can often see the writing on the wall more clearly than their national leaders and will accept redundancy if the terms are right. The terms offered by BSC have been widely publicised and could well have influenced expectations among British Leyland workers at Speke. But they reflected, among other matters, the fact that the steel workers concerned had been assured by the Beswick plan the prospect of continuing employment for varying periods ahead, a promise the BSC now wanted to buy out, whereas an important consideration at Speke has been the fact that the factory was built only eight years ago and so few of the workers there had been employed for a large number of years.

No norm

When jobs have to be bought out, it is up to the employees, unions, and management concerned to negotiate terms that are appropriate to the circumstances. There can be no national "norm" for redundancy pay over and above the minimum rates laid down by statute. The extent to which alternative jobs are available locally, the preference to be given to the oldest or the longest-serving workers, the case for some kind of continuing payment as well as a lump sum (a growing feature of redundancy deals) varies from case to case. So, too, do the cost savings which will ensue, and thus the share that can be made available to those whose jobs are disappearing. BSC, like the Coal Board, may be able to draw redundancy funds from the European Coal and Steel Community, but there is no difference in this respect between public and private sector concerns or between those that are being supported by the taxpayer and those that are not.

Long run for commodities

THE CHANCES of convening a conference by July that would succeed in establishing the proposed common fund to stabilise commodity prices are probably a lot less good than Mr. Shridath Ramphal, the Commonwealth Secretary General, suggested on Friday. But the two-day Commonwealth Ministerial meeting in London last week made some progress in bringing together the industrialised and developing nations that would have to participate.

Realistic

The apparent readiness now to search for a compromise reflects a more realistic appraisal of the complicated issues at stake. It is also indicative of anxieties shared by both North and South about the gloomy outlook for world trade and for their economies. Developing nations fear a drop in their commodity export earnings, which account for nearly two-thirds of their visible overseas earnings, and the wrench this would have on their balance of payments and development plans.

For the West, there is a short-term gain to be had from a fall in the price of imported raw materials. But it is marginal beside the resulting uncertainties over new investment to assure supplies of future raw materials and the loss of purchasing power in the Third World, which is becoming an increasingly significant importer of capital goods. The advantage of a Ministerial meeting, such as the Commonwealth session, is that it can touch on these broader issues of trade and capital flows, which officials negotiating on a specific subject feel are out of bounds.

But major differences over the shape of the fund still remain. The view of the West is that attempts to dampen down the wilder fluctuations of the commodity markets must be firmly rooted in individual commodity agreements negotiated between producers and consumers. The most likely to be achieved are tin, rubber, coffee, cocoa, tea, and jute, with copper a possibility. Western governments are willing to share the burden of the financing of the buffer stock required to make such agreements work and to guarantee borrowings that commodity associations might need to make. But this approach leaves for the fund only a marginal role as a banking facility able to offer commodity associations some capital savings. The West does not want the fund to have the power to intervene in the markets and does not intend to provide it with the finance that would give it that amount of leverage.

Most developing nations look at the fund through the other end of the telescope. They want it to have a strong capital base because they would like it to be able, as a Third World commodity institution, to hold its own against what they see as the Western-dominated IMF and World Bank. They see the fund as being powerful enough to give impetus to new commodity agreements. They are keen for it to have an activist "second window" to assist producer nations whose commodities are [illegible] amenable to buffer stocking. Such an organisation would require direct contributions from Governments.

Unpalatable

If a lot of this is unpalatable in Britain, it is more so to the U.S. and Germany. But it is important not to let the fund vanish into the sands because, for the Third World, it has become a test of the West's sincerity in negotiations. There are two promising lines of advance. The first is to demonstrate the willingness of consumer governments to participate in commodity agreements by putting a lot more urgency into the negotiation of them than has so far been seen. The second is to recognise that a long-term decline in commodity earnings will have consequences for developing countries detrimental to the efforts of Western economies to generate new growth.

Intervention in the commodity markets through the type of common fund that developing countries have in mind is not the most effective mechanism for making good their shortfall in resources. But the West is not going to persuade them to shift their ground unless it is much more forthcoming over the related issues of concern to them—in particular, access to Western markets for their manufactured goods and the availability to them of more longer-term finance.

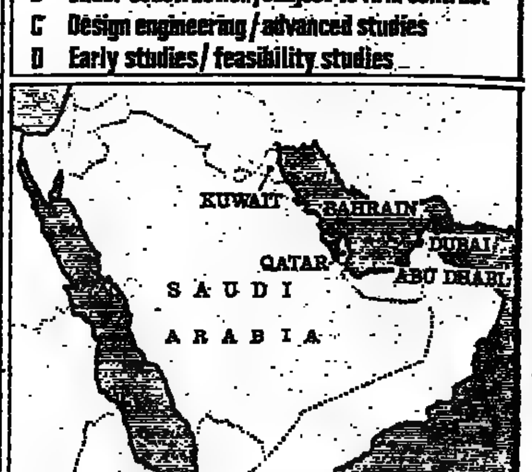
Perils for oil States' industrial life-rafts

	Petrochemicals	Fertilisers	NGL	LNG	Export Refineries	Aluminium	Steel
Saudi Arabia	4-C 3-D	1-A	1-A 1-B 1-C		1-A 3-C	1-C	1-C
Kuwait	1-C 1-D	1-A	1-A 1-B		2-A 1-D**		
Bahrain					1-A	1-A	
Qatar	1-B	1-A 1-B	2-B*	1-D			1-A
Abu Dhabi		1-C	1-B	1-A	1-C		
Dubai			1-B			1-B	

* ONE PLANT BEING REBUILT AFTER EXPLOSION LAST YEAR
** EXPANSION PROJECT

MAJOR ARABIAN PENINSULA HEAVY INDUSTRIES

A Already on stream
B Under construction/subject to firm contract
C Design engineering/advanced studies
D Early studies/feasibility studies



THIS MONTH sees the completion of start-up trials of Qatar's Umm Said steel mill, the first heavy industrial plant conceived since the 1972-1973 oil price rises to come on stream anywhere in the Arabian Peninsula.

The event is of more than passing significance, because as all the hundreds of thousands of businessmen who visit the region every year rapidly become aware, energy-intensive heavy industry is seen by the governments as the key to making Saudi Arabia and the Gulf states viable economies before the oil runs dry. It is the foreign exchange and tax revenue earner regarded as the most logical supplement to declining oil incomes.

But in practice the odds on heavy industry fulfilling the role intended for it are highly speculative; and this calls into question the Arabian oil producers' whole future.

The states which endorse the heavy industry philosophy wholeheartedly are Abu Dhabi and Qatar. Kuwait is a partial subscriber, while (to be safe) it also tries to draw out its oil production as long as possible, and Bahrain and Dubai are aiming to combine some heavy industry with a role as service centres for the economies of their neighbours.

Saudi Arabia is in a category of its own, because its vast oil reserves enable it to look upon heavy industry not so much as a direct substitute for oil, but as a first generation of industrial development which will provide a training ground for its people and a foundation upon which later industrial development will be based.

A small work force needed

The basic appeal of heavy industry in the minds of the planners is that most of the plants envisaged would run off locally-produced raw materials. They can (in theory) be made competitive in international markets by supplies of low-cost gas, which hitherto has been flared as part of the process of oil production. Also the work-force required would be small in relation to the value of the plants' output—a vital consideration in countries which have very small indigenous populations and are heavily dependent on immigrant labour.

By these criteria the industries that qualify for consideration are various petrochemicals and fertilisers, export oil refineries, steel and aluminium smelters, natural gas liquids (NGL) plants (producing heavy gases for bottling and industrial feedstock) and liquefied natural gas (LNG) plants (producing frozen mains gas).

In deciding which of these industries to build, the oil producers consider first which plants would involve the most profitable use of their gas. A rough guide to this, which optimistically assumes Western levels of operating efficiency, has been calculated by Harvard Uni-

BY MICHAEL FIELD

versity's T. R. Stauffer. By working back from market prices and eliminating all other costs, Stauffer has put the value of 1,000 cubic feet of gas at $1.68 if used for refining, at $1.20/1.00 for fertilisers, $0.94 for aluminium smelting, $0.89 for LNG and $0.60 for steel. (Petrochemical and NGL plants are not included here because they use only the heavier—and higher value—gases which have been separated out of the mixture of natural gases associated with oil production.)

The planners then have to consider the market position of each product and the size of the labour force required by the different plants. This may alter the picture somewhat, because even if a refinery will yield rather more profit per unit of gas than, say, a fertiliser plant, it will actually make use of a much smaller volume of gas and yield less total revenue attributable to gas. It will therefore look much less attractive when considered on the basis of "labour force employed per unit of gas consumed and revenue earned." These considerations work against steel mills as well as refineries, while they make NGL and petrochemical plants especially attractive. The outcome of these analyses in the different countries is reflected in the list of projects in the chart.

Although people normally talk of these projects as being built for the day "when the oil runs out," in practice they will be needed a lot sooner. It is highly likely that within 10 years the performance of Arabian Peninsula heavy industries in the Gulf States (as opposed to Saudi Arabia) will be having a direct effect on levels of government spending, on development policy and on the attractiveness of the area as an export market.

Initially, the industries will be called upon to act as a revenue supplement when the governments' spending rises above the level of their oil incomes, and a little later, when oil production begins to decline, they will have to begin taking over the burden of financing a major part of expenditure. The theory is that, eventually, governments would hold the production of oil and unassociated gas (gas found on its own) at a level just sufficient to run their industries (converted partly to being oil-burners) without there being any surplus of crude left for export. And at that point the industries would have to provide almost all of the countries' foreign exchange income as well as a still bigger proportion of government revenue.

Additional sources of income at each stage would be interest earned from accumulated financial reserves and domestic taxes. But governments may be reluctant to use all their interest and dividend income if they wish to maintain the real value of their foreign assets, while tax is something which the Arabian populace will find hard to accept: it is used to seeing the State as the ultimate source of all personal wealth, not as an institution which it has a duty to support.

Of course, the gradual change-over from oil to industrial income will begin at different dates in different countries. Saudi Arabia and Kuwait will be last, while Qatar, which has small oil reserves and no prospect of big oil discoveries in future, will be first. And it is no coincidence that Qatar has far more industries already under construction than any other State. In fact Qatar will need to draw a lot of its revenue from industry by 1985, which in Arabian planning terms is frighteningly soon. Bahrain, on the other hand, is already dependent on industry to some extent but, like Dubai, has never been a conventional "oil State." Its people's attitudes to wealth, work, and tax are very different from those of other Arab States.

If Qatar and its successors fail to draw sufficient revenues from industry, they face the prospect of becoming partly dependent on Saudi aid, which has social and political strings attached. Ultimately some countries, particularly Qatar and Abu Dhabi, could conceivably find that if their industries fail, their economies will simply go into reverse, and that they will turn into ghost States in the same way as the 19th-century ghost towns of the Wild West did when mineral seams ran out. At present, the economic life of all Arabian oil States is totally dependent on the governments continually pumping money into them. Any policies involving a reduction of wages in real terms, cuts in social spending, or the introduction of tax, are liable to lead to the departure of large numbers of Indians and other non-oil State Arabs (mainly Egyptians) who keep the countries working but who feel alienated from societies in which they have very much a second-class status.

> "Most of the heavy industries that have already been brought on stream . . . have performed disastrously."

In all countries except Bahrain and Saudi Arabia, expatriates account for between 60 per cent. and 80 per cent. of the population.

Unfortunately for the States which may one day be facing these prospects, most of the heavy industries that have already been brought on stream in the Arabian Peninsula have performed disastrously. The exceptions have been Aluminium Bahrain (ALBA) and the refineries and NGL plants which were built by the original oil concessionaires as part of their own integrated operations. Part of the problems has been in marketing, but most of the plants have suffered from serious technical snags caused by the exceptionally severe environment of the Arabian Peninsula — saline water supplies, dust, intense saline humidity and very high temperature.

Even if they were to run at full capacity, the revenues generated by these heavy industries are not much compared with the revenues from crude oil exports. The gross sales revenues of ALBA and the Qatar fertiliser plant in 1976 were $120m. and $100m. respectively, while assuming some rise in prices, the gross sales of the Dubai aluminium smelter (DUBAL) in the early 1980s might be roughly $250m. and the sales of the Qatar steel mill $115m. The Saudi petrochemicals plants, at present prices, might yield $280m. each and the second Qatar NGL plant $120m. On this basis all four Saudi petrochemicals plants at the advanced planning stage put together would not yield more than the revenue from 250,000 barrels a day of crude oil exports — less than 1/30th of last year's Saudi production.

As for the net income of these plants, which are the figures which should really be compared with oil revenues, the forecasts vary considerably according to how the governments choose to price some of the plants' inputs—notably gas, water and electricity. The governments' decisions are extremely important to potential foreign partners—though from the point of view of the Finance Ministries it does not make very much difference whether the income comes as sales revenues from gas and services, or as dividends and tax on the profits of the plants.

There are some inputs, though, which are not dependent on government accounting decisions. In the case of steel and aluminium there are major imported raw materials, and for all plants there are high operating costs (mainly labour and housing) which according to the most pessimistic estimates may be up to 60 to 80 per cent. above normal Western levels. Likewise, capital costs may be anything from 25 to 100 per cent. more in the Middle East—mainly because of the extra time required for construction, the need to adapt technologies to the severe environment and the high costs of contractors.

Consequently the 1981 profits of the Qatar steel mill are projected at only $23m. out of a gross income of $115m.—despite the fact that the plant will be getting its fuel at about 12 per cent. of the market price obtained by Algeria for exports of similar gas. These figures, and even the $100m. profit figures for the Qatar NGL and petrochemicals plants, are not so high that they cannot be turned into losses by even a moderate reduction in operating levels.

Beyond this there are the problems of marketing. The NGL system of Saudi Arabia alone will eventually be as big as the present capacity of the entire non-Communist world outside North America, which means that even with substantial growth in Japanese and in Third World consumption, a surplus of NGL in world markets looks more or less inevitable. Arabian Peninsula petrochemicals plants and refineries, in contrast, seem likely to account for quite minor proportions (2 or 3 per cent.) of world capacity in the 1980s, but they will be operating in markets which already seem bound to be plagued by huge surpluses—running up to 55 per cent. excess capacity for ethylene production according to independent estimates.

'Strings' tied to oil sales

It must be said, though, that the Arabian governments' own estimates of market conditions are very much more optimistic than this. Furthermore, it is argued strongly that the size of the 1980s surplus capacity could be controlled now by co-operation between governments. But as the Saudis themselves admit, the West's reaction to their request for a dialogue so far has been negative.

The result of this situation is that the sales of the Middle Eastern heavy industrial plants could become a political issue, in which Saudi Arabia especially may tie the sale of crude oil to sales of its industrial products. Western governments may then find themselves balancing considerations of security of supply of the new products and pressures for the protection of existing domestic industries on one hand, against their need for crude oil, Middle Eastern diplomatic factors and their desire not to offend export markets for their own manufactured goods on the other.

In any event, it seems that the industries of the Middle East will have a problems-laden entry into world markets. Given that even in more normal market conditions the industries' potential as revenue earners is doubtful, this must be a worrying prospect for the Arabian governments.

MEN AND MATTERS

The Chief's men in Mayfair

The news of last week's somewhat bizarre decision by the Transkei to break diplomatic relations with South Africa was "orchestrated" by a public relations agency in Dover Street, Mayfair. Involved in the orchestration (the term used by agency head Paul Dwyer) were Humphry Berkeley, one-time Tory MP and now a Labour Party member, and a West Indian writer named Scobie Lowblack.

Dwyer told me yesterday that he, Berkeley and Lowblack went on a trip to the Transkei at the start of this month. While they were there, Chief Kaiser Matanzima and his Cabinet took the decision to sever diplomatic ties with Pretoria. Did the trio encourage this decision? "No," says Dwyer, "but we were not sorry."

Both Lowblack and Berkeley are paid consultants to Dwyer's agency, called Business Expansion. Dwyer does not see eye to eye with Berkeley in all matters: "I am an active Conservative and have stood as a parliamentary candidate for the party." But they are at one about the policies being followed by Matanzima—who is on the telex to them twice or more a day. When I suggested that the Dover Street office is acting as an "unofficial embassy" for the Transkei, Dwyer agreed. "We are playing a David role to South Africa's Goliath."

Broadcaster and entrepreneur Berkeley is a veteran Africanist, who likes to refer to many black presidents by their first names. The agency has retained him, it says, for his constitutional knowledge. The third member of the team, Lowblack, has close contacts with the Transkie's Foreign Minister, Digby Koyana.

This is not the first time Lowblack has worked for Matanzima. Until February he ran the Transkei Information Service (TIS) from a third-floor office in Regent Street. At the South African embassy, all callers about the Transkei were then referred to Lowblack. But at the end of February a company called Integrated Visual Systems which had hired the Regent Street office went into liquidation and TIS folded up. The liquidator, Anthony Groman, declined to discuss the details.

Dwyer says that as far as he knows only his agency is representing the Transkei here in its fight to assert genuine independence from South Africa. During the recent visit, a three-year public relations contract was signed. "Matanzima has a tremendous regard for Britain and we want to attract investment for him." Dwyer told me. "But we know there is a hard road ahead." When I suggested it was paradoxical that the agency was helping the Transkei to defy South Africa which supplies the bulk of the Transkei's revenue—Dwyer said he would rather not comment on that.

Question time

I recently gave some attention in this column to the discredited "clipboard selling" technique. It was being used by a few insurance broking firms to find likely candidates—victims, perhaps one should say—for subsequent hard selling of life insurance policies. A probe into the method has also been made by the BBC's "Moneybox" programme. The Life Offices Association has expressed disapproval and there has been Ministerial criticism in the Commons. So the offending insurance brokers have lately been declaring a change of heart. They say that clipboard selling is a thing of the past.

But is it? Winsome girls with clipboards still hang around the exits from certain Underground stations in London, to quiz emerging travellers about their views on the economic scene. The names they collect are then brought together and hawked around to whoever may want them as a "good list." So if you are stopped in the street and asked what you think of Denis Healey's 13th Budget, make sure your interrogator comes from one of the well-known opinion pollsters. Otherwise, you will shortly be on the end of some forceful telephone calls.

Final throw

Faithful to its name, the Promenade des Anglais, Nice's Belle Epoque waterfront, has succumbed to the English disease.

The victim is the grandiose casino of the Palaise de la Méditerranée, once described by the writer Jules Romains as "France's greatest modern monument." Nobody broke the bank, it broke itself. Bankrupt after months of efforts to pull it out of the red, the casino finally closed its doors on Friday.

The casino lost 10m. francs—well over £1m.—in its last financial year, and its net debts are put at around £2m.

The official receivers decided to take no more bets. "The practice of gaming, with all the risks it could present as a business of chance, was incompatible with our legal functions." But the 300 Palais employees, 80 of whom worked on the tables, decided the wheel was not going to stop there. As the doors closed, in they went to occupy the building. Union leaders say they saw the casino's demise coming, ever since effective control passed last June from the hands of Mme. Renée le Roux into those of M. Jean-Dominique Fratoni, who also runs the Palais' neighbour and rival, the Ruhl.

"Under the pretext of prudence, the new management applied itself to a systematic strangling of gambling activities," allege the unions.

At the Ruhl, the roulette, blackjack and chemin de fer still go on. But Fratoni has an equally serious employee problem. Nine of the casino's croupiers have been charged with raking in from the company's tills. The amount of their alleged illicit winnings is reported to be around Frs.6m. The management has sent out a note assuring customers that it was the casino, and not they, that was cheated.

More for less

More on the vagaries of British Rail fares. A Chelsea reader who travels up to Carlisle frequently to see his family says he had what seemed like a bright idea: He would buy a Big City Saver to Glasgow (£15 return) and get off at Carlisle. The railways told him sternly that he would have to pay a surcharge of £5.45 for wanting to travel 180 miles less. He has now decided to drive up the motorway instead.

Die now, or else

A New York mausoleum is widely advertising its burial services in the city's newspapers. Ominously, the ad. ends with a warning in heavy type: "Please Note, Our Prices Rise on April 30."

هكذا من الأجل

FINANCIAL TIMES SURVEY

Monday April 17 1978

هكذا من الأصل

Saudi Arabia

The second part of the Survey looks at the vital oil and gas industry and at the development of infrastructure which will act as a long-term unifying economic and political factor.

CONTENTS

Surplus revenue	XXII
Development plan	XXII
Gas gathering	XXIV
Heavy industry	XXIV
Oil production	XXV
Marketing	XXVI
Electricity	XXVI
Water supplies	XXVII
Roads	XXX
Housing	XXX
Education	XXXII
Contracts	XXXIII
Air services	XXXIV
Sightseeing	XXXV
Father of the Kingdom	XXXVI
Bedouin	XXXVII

Part I of this survey appeared on Monday, March 20, and contained articles on:

Politics
Aid
The economy
Defence
Capital market
Banking
Insurance
Minerals
Telecommunications
Manufacturing
Ports
Shipping
Architecture
The business world
Manpower
Expatriate life
The law
The Hajj
The Islamic Community
The House of Saud

Society grappling with change

Anthony McDermott

THERE HAS rarely been a society as exposed to dramatic change, development and re-organisation as Saudi Arabia is to-day. The contradictions—as seen from the West—are easy to pinpoint.

Physically it is a country with a small population—6m. may be too high an estimate—scattered across an area about two-thirds the size of Western Europe. It is trying to *hold* firmly to the basic and strict tents of Wahhabi Islam while absorbing the most modern technology available. It is seeking to retain a Saudi *identity while being forced* increasing to import and depend on an extensive foreign labour staff.

There is a positive drive to improve the educational and material standing of women while continuing to deny them the logical extension of this betterment by keeping them *apparently still* in a status inferior to that of men. Above all, it is trying to run an increas*ingly complex* State before the foundations of a suitably geared bureaucracy have been established.

In many ways, to list these *points is an unproductive* exercise because it expresses them in terms that Saudis might neither understand nor accept. First, for them the criteria on which these apparent *contradictions* are based are profoundly different and therefore frequently do not apply. Secondly, Saudi has hitherto been highly successful in resisting some aspects of change, in particular the movements of radicalisation which *passed through the Arab world* in the 1950s and 1960s.

As a result it sees no reason why the new challenges brought on by the impact of enormous *wealth should not be absorbed* as well. Far from seeing itself as under siege, Saudi Arabia has a confidence about it which is often taken as arrogance.

At the same *time* Saudi Arabia is having to face decisions which are not just on a day-to-day basis about providing aid for this or that African State or issuing a law defining the relationship between foreign *companies and local* agents. It is having to decide between a whole range of long-*term strategies which could* profoundly affect the society and country in which Saudis live, and which if mishandled could be damaging, not beneficial.

It is in the material and economic side, as the development article points out (Page XXII), that some sort of vision of Saudi Arabia emerges *most clearly. Basically there* are three trends: greater urbanisation; industry to be developed to supplement and, in the distant future, replace oil; the bedouin population to *become* more settled and turn to agriculture.

Predictably, the spiritual vision is less clear. This is partly because this *is a far more* intimate process, not directly involving outsiders. Secondly, *it is harder to quantify* than how a $142bn. development plan is to be carried out or an oil production ceiling of 8.5m. barrels/day imposed. Thirdly, *it is clear that although Saudi* Arabia's ruler and *ulema*, the religious leaders, have total confidence in Islam as a guide to life, there is awareness that *changes will have to come and* they have yet to chart with certainty the direction to take.

It is not for nothing that the preamble to the development plan puts the maintenance of Islamic values before descriptions of economic evolution.

*Some aspects of the develop*ment plan are already having a beneficial impact. It is only just over 40 years since Saudi Arabia was unified under King *Abdel-Aziz after a history of* prolonged tribal strife. Traces of these differences still remain and it is significant that the National Guard is largely made *up of Nejdi tribesmen* traditionally loyal to the house of Saud. But the provision of roads, improved telecommunications. Saudia's air links with *comparatively obscure towns* and education and services for the bedouin have all given Saudis a sense of belonging to a country with an identifiable *Government*, to which loyalty and patriotism should be given.

Contrast

In contrast to this tangible gain of Saudi patriotism, which *should strengthen with the* years, greater economic opportunities and more widespread education contain their own potential problems. For a start *they have opened the way for* technocrats and business people not from the royal or traditionally influential families to come forward and demand some political recognition within a system which is almost entirely dominated by the ex*tended royal family of some* 5,000 members. It is generally held, however, that the chances of this occurring for many years are remote.

The royal family is a sophisticated machine with a wide network of contacts through marriage which keeps it well informed about, and responsive to, public opinion. In *addition, security in its own* way is unobtrusive but tight and the family has no inclination to relinquish the predominant role it has developed *for itself*. Indeed its senior members have been trying to ensure that its members are capable of dealing with economic developments by buying them the best education abroad—mainly in the U.S.—and placing them in key posts of the Government.

Furthermore, although pockets of poverty do exist in Saudi Arabia in distant villages and shanty towns in and around the main cities, there is broad contentment with the way the Government has provided opportunities by means of its great wealth—directly in aiding the *private sector obtain loans*, or indirectly through helping people buy houses on cheap *terms or through giving school*-children free meals on a wide scale.

The armed forces, which are going through an extensive period of sophisticated develop*ment, are not seen as a threat.* This is partly because the rulers of Saudi Arabia, having seen how military coups have come and gone elsewhere in the Arab *world, monitor carefully what* goes on in their ranks, and partly because the regular armed forces and the National Guard are set up as deliberately counterbalancing entities.

One historical feature which gives Saudi Arabia special confidence in its spiritual values is that hitherto it has not been opened to Western cultural *influences as say the Maghreb was to France, the Levant and Egypt to Britain and France, and the countries of the Gulf* to Britain. Yet it is from Western influences that the most profound strains may now come, for in a new form Saudi Arabia *is experiencing what those did* in the last century—and in a more acute form.

The direct invasion comes from the increasing number of *foreigners that have to be* employed. Officially, the drive is towards Saudi-isation in every walk of life, but in practice this policy is highly selective. The *first reason is that there are* not enough trained Saudis to do many of the jobs. Secondly, Saudis are more interested in business or in occupying senior *positions than providing the* working core of Ministries. One crucial effect may be to exacerbate — as decisions about the economy and social affairs *become more complicated*—the existing problems of bureaucracy, where few civil servants *are prepared to take responsi*bility for their own decisions or those of others.

So far Saudi society has been successful in containing imported culture from the West. Indeed there are signs of surprising flexibility from time to time. Cinemas are officially forbidden, but private or semi-private showings are widespread, and in recent weeks a Saudi newspaper listed some of the films available, including some on the verge of soft porn, and where they could be seen.

But on the whole Saudis—in particular the men—display a singular ability to enjoy the pleasures of Western society when abroad on business, education or holiday, and apparently to eschew those elements which are banned in Saudi Arabia on return without *any real schizophrenia. This is* partly because some of the banned pleasures like alcohol are obtainable for those who want it, and partly because Saudis now have unprecedented opportunities for travel abroad. But there is also an innate respect for the austere Wahhabi Islamic principles which the Government *imposes*.

Whether this will remain so in the long term depends *heavily on education. If there* is cause for concern about the future it is this sector, for while in the education Ministries and universities there are *officials full of ideas* about modernising curricula or running the experimental comprehensive school at Riyadh, the system itself is antiquated, held back positively by the traditions of Koranic learning and staffed largely by non-Saudi *Arabs who have only a limited* interest in trying to introduce *new ideas*. For the moment these problems ironically buy time for the conservative elements in Government who are concerned about the deeper *effects of introducing more in*dependent thinking or subjects which might undermine the fundamental role of Islam.

Acute

The dilemma *is especially* acute in women's education. Illiteracy is still high among women, but those who have grasped the opportunities of education *have done so with* great enthusiasm. But practical use of this learning outside the traditional roles expected within the home are still limited.

There are some signs of stirrings. A journalist writing in the weekly *Iqra* in February caused dismay by saying that *Saudi women* are hiding behind walls of their own making. The daily *al-Riyadh*, however, indicated the limits of this potential revolution in women's status by *suggesting that one solution to* the boredom women suffered from would be to make women's associations more accessible.

Resolution of most of these *problems lies* ultimately with Islam, which, it is often forgotten in the West, has shown in the past remarkable ability to adapt and think forward. It *has, for example, one built-in* protection against the growing materialism brought on by economic development in that, unlike some religions, it makes no *great virtue of asceticism* and poverty.

For the moment there is no obvious evidence that the preparation for these changes is *in the hands of the religious* equivalent of the young Saudis who obtain distinguished PhDs abroad. On the contrary, in this most delicate area the Saudi *Government is moving with its* characteristic caution and secrecy, perhaps inspired by the *fact that*, under Saudi patronage Islamic values seem to be reasserting themselves in Africa, Asia and among communities in Europe.

In the end the greatest risks of instability will come probably not from the cultural invasion from outside but from the decisions Saudi Arabia takes about *its role in the Arab world and* the world in general. For example, by choosing to expand oil production (rather than keep its assets in the ground), it is *able to have a deep influence* not just on the future of OPEC as a cartel but also on Western economies (in particular that of the U.S.).

The indications are that economically and politically Saudi Arabia is becoming inextricably tied up with the West. But if, for example, the Arab-*Israeli conflict* remains unresolved and threatens to turn into another war, the Saudis might inevitably be *forced to abandon* their role of moderation in the Arab world and face the unpleasant choice of having to side with the Arabs against the West—*probably through an oil* embargo.

Forecasting the size of Saudi Arabia's surplus funds has proved to be a hazardous occupation, and deploying them to best effect a task of enormous complexity. The role of the Saudi Arabian Monetary Agency—effectively the central bank—has been much misunderstood in the speculation over deployment of the surplus.

Surplus revenue

SUFFICIENT TIME has elapsed since the oil price explosion of 1973-74 to show the longer-term forecasting of surpluses to have been not only a growth industry but a notoriously unreliable one. Pundits in institutions and banks have tended to make wrong assumptions about subsequent increases, the erosion of the real value of revenues as a result of inflation and recently the depreciation of the dollar, and the surprising absorptive capacity of OPEC members—not the least Saudi Arabia. Who would have believed three years ago that the OPEC countries as a whole would have a declining balance of payments surplus in the third quarter of 1977?

One thing, however, can be said for certain: Saudi Arabia will continue to generate a fiscal surplus for the indefinite future if it maintains oil production at a rate of 8.5m. barrels a day. Saudi Arabia is classed as one of the four long-term surplus countries together with Kuwait, the United Arab Emirates and Qatar. Having made the above reservation about forecasts, one of the more authoritative looking ones produced late last summer by the First National Bank of Chicago predicted the collective foreign assets of the four rising from $78bn. at the end of 1976 to $229bn. in the five-year period from 1977 to 1981. Saudi Arabia's share at the end of 1976 was, as it happened, $50bn. In future it can be assumed that the Kingdom's portion of the four producers' collective surplus—whatever it is—will increase relative to the others. Even if it spent almost all its revenue in this period accrued income would ensure a steady growth of the country's foreign assets — though a not insignificant proportion of them, it should be stressed, do not generate high income.

For some years now the Kingdom's foreign assets deployed by the Saudi Arabian Monetary Agency (SAMA) have not been fully reflected in the reserves recorded by the International Monetary Fund. Those recorded in its monthly financial statistics rose dramatically from $3.87bn. at the end of 1973 to $14.28bn. at the end of 1974, $23.32bn. at the end of 1975, $27.02bn. at the end of 1976 and $30.03bn. at the end of 1977. The figures for the last two years in no way reflect the official surplus generated during them.

Confidence

An increasing proportion of the total would have been in longer-term assets which might justifiably not be classed as "international liquidity." The exact criterion for such classification has not been spelt out in detail. Certainly, the Government is very conscious of the enormity of its accumulated surplus. In practice, there is no particular mystery about Saudi Arabia's "Missing Billions" as one journal specialising in foreign exchange dramatically asserted in a boring and uninformative investigation into the question early last year.

Last month Crown Prince Fahd reconfirmed the Kingdom's confidence in the dollar, saying that it did not wish to switch to another form of currency. Considering the size of its accumulated surplus and the limited alternative investment outlets, Saudi Arabia, like Kuwait, has little choice but to place the greater part of its foreign assets in the dollar form either in the U.S. or elsewhere. Yet there has certainly not been any formal agreement on this question as the International Currency Review reported last year.

During the last six months the Saudi Arabian Government has been badly upset by allegations that SAMA (the Kingdom's central bank) has been understating the size of its liquid foreign assets and has entered into a series of agreements with the U.S. which effectively remove a large part of its assets from its own control.

The two principal items said to be included in the agreements were that 50 per cent. of the Kingdom's balance of payments surplus was to be placed in special long-term non-marketable U.S. Government paper, and that 37 per cent. of the country's existing liquid cash, surplus to the Government's requirements for investment in Saudi Arabia, would be placed on the long-term markets in the U.S. In fact neither of these claims makes sense on a whole variety of grounds. In particular, the first claim is made absurd by the fact that a fair proportion of the balance of payments surplus is in the private sector and not under the control of SAMA at all, while the second claim is a contradiction in terms because the Government's "liquid cash" is held specifically for the purpose of spending in Saudi Arabia or to meet external commitments such as aid loans, and is therefore by definition *not* part of the surplus available for long-term investment.

Fundamentally, a lot of the alleged items in the secret agreements involve a misunderstanding of the role of SAMA. The Monetary Agency controls not a balance of payments surplus but a budget surplus (which is what in Kuwait and Qatar constitutes the "reserve" managed by the finance ministries), plus a large number of accounts belonging to the Government and all Government agencies and the commercial banks.

Thus SAMA's liabilities include: the current accounts of Government departments earmarked for salaries and for other current and development expenditures; Finance Ministry accounts containing sums earmarked for disbursements as aid loans or gifts; a special "IMF account" which contains money allocated to the IMF but not yet drawn upon; Government pension fund accounts (other of which are now held with the new Saudi Investment Banking Corporation); the "reserve account", which can be classified more or less as accumulated budget surpluses; local banks' deposits; the accounts of all the Government's special lending funds (such as the Saudi Industrial Development Fund), the Islamic Development Bank, Petromin, Saudia and other State institutions; and a special "letter of credit account." This last, somewhat anachronistic, account, which dates from the reforms instituted in the late 1950s after Saudi Arabia had been virtually bankrupted by the late King Saud, holds a sum equal to the full value of all outstanding letters of credit opened by the Government for contractors—the account being credited from one of the Government current accounts with the amount of each letter of credit as soon as that letter of credit is opened.

It is not possible to give precise and up to date figures for these accounts, because the balance-sheets which SAMA publishes fortnightly are not broken down in this way. Still, for what they are worth, the figures in the November, 1977, balance-sheet were: Government current accounts $3.0bn., special and reserve accounts $27.9bn., Government agencies $8.7bn., pension fund accounts $1.4bn., deposits of local bank $3.9bn., other accounts $12.8bn.

Applied

The same investment policy is applied to all the funds under SAMA's control, no matter what account they are derived from. In other words cash held for budget expenditure is placed in the same way as cash from the letter of credit account and cash due to the commercial banks, and it is up to the investment department to work out the amount of the funds that *must* be held liquid at any one time.

In practice SAMA's definitions of which assets are or are not liquid are rather different from the definitions normally used in the international banking community. Most important, treasury bills and other easily discountable securities, which might normally be classed as liquid assets, are regarded by SAMA as investments, because the Monetary Agency holds such enormous quantities that it would be unable to discount them on a significant scale without seriously disturbing the market.

SAMA contends therefore that it is illogical for anyone to say that it is understating its liquid assets ($30.9bn. according to the IMF at the end of November last year) by including Treasury bills as investments ($25.4bn. in the IMF figures for the end of April, 1977). Indeed SAMA believes that it could legitimately reduce the declared total of its liquid assets further by removing the deposits it has placed with central banks in Third World countries, which it recognises are unlikely ever to be repaid at all. It could also remove its longer term CDs and many of the deposits it has placed with banks in the West, which it argues again could hardly be discounted or withdrawn without causing chaos.

For practical purposes, however, the assets put under the "reserves" heading by the IMF are predominantly CDs and bank deposits placed exclusively with banks on the Approved List. *Originally this list* contained just ten names (marked with an asterisk), but in recent years it has undergone two major expansions—one in 1972 when 25 names were added in a somewhat random fashion, and another in 1975 when about 17 or 18 names were added after very careful study. Taking into account four or five additions which have been made individually at different times and one or two subtractions the list now stands at something between 54 and 58 names. It is possible to be certain on all bar about ten of the names in the box.

SAMA's long-term investments, referred to in the IMF statistics as "other assets," are composed of: Treasury bills, bonds issued or guaranteed by governments or agencies of governments or international organisations, loans to governments (including aid loans but not concessionary deposits with central banks), blue chip corporate bonds, and a very small amount of equities—but no property.

The equities and some of the other securities are held in portfolios, possibly up to ten in number, which SAMA has opened recently—mainly with banks in the U.S. In every case the portfolio managers have been assigned to do very specific tasks which SAMA feels it is not able to do from its headquarters in Jeddah (it is for this purpose alone that SAMA decided to open the portfolios), and all the managers operate on very strict guidelines—although technically their portfolios are of the discretionary type. One of the fundamental guidelines is that at no time may SAMA's equity investment reach 5 per cent. of the voting stock of any company.

By Our Foreign Staff

BASIC STATISTICS

Area	865,000 sq. miles
Population	9.24m.
Trade (1976)	
Imports	SR37.7bn.
Exports	SR137bn.
Imports from U.K.	£400m.
Exports to U.K.	£978m.
Trade (1977)	
Imports from U.K.	£577m.
Exports to U.K.	£1.1bn.
Currency: Riyal	£1=SR6.59

SAMA APPROVED LIST

U.S.
*Bank of America
*Citibank
*Chase Manhattan
*Morgan Guaranty
*Bankers Trust
Manufacturers Hanover
Continental Illinois
First National Bank of Boston
First National Bank of Chicago
Mellon Bank
United California Bank
Chemical Bank
Irving Trust
Security Pacific

BRITAIN AND COMMONWEALTH
*National Westminster
*Midland
*Lloyds
Barclays
Standard and Chartered
British Bank of the Middle East
Hong-Kong and Shanghai Banking Corporation
Bank of New South Wales
Australia and New Zealand Bank

CANADA
Bank of Nova Scotia
Canadian Imperial
Toronto Dominion
Royal Bank of Canada
Bank of Montreal

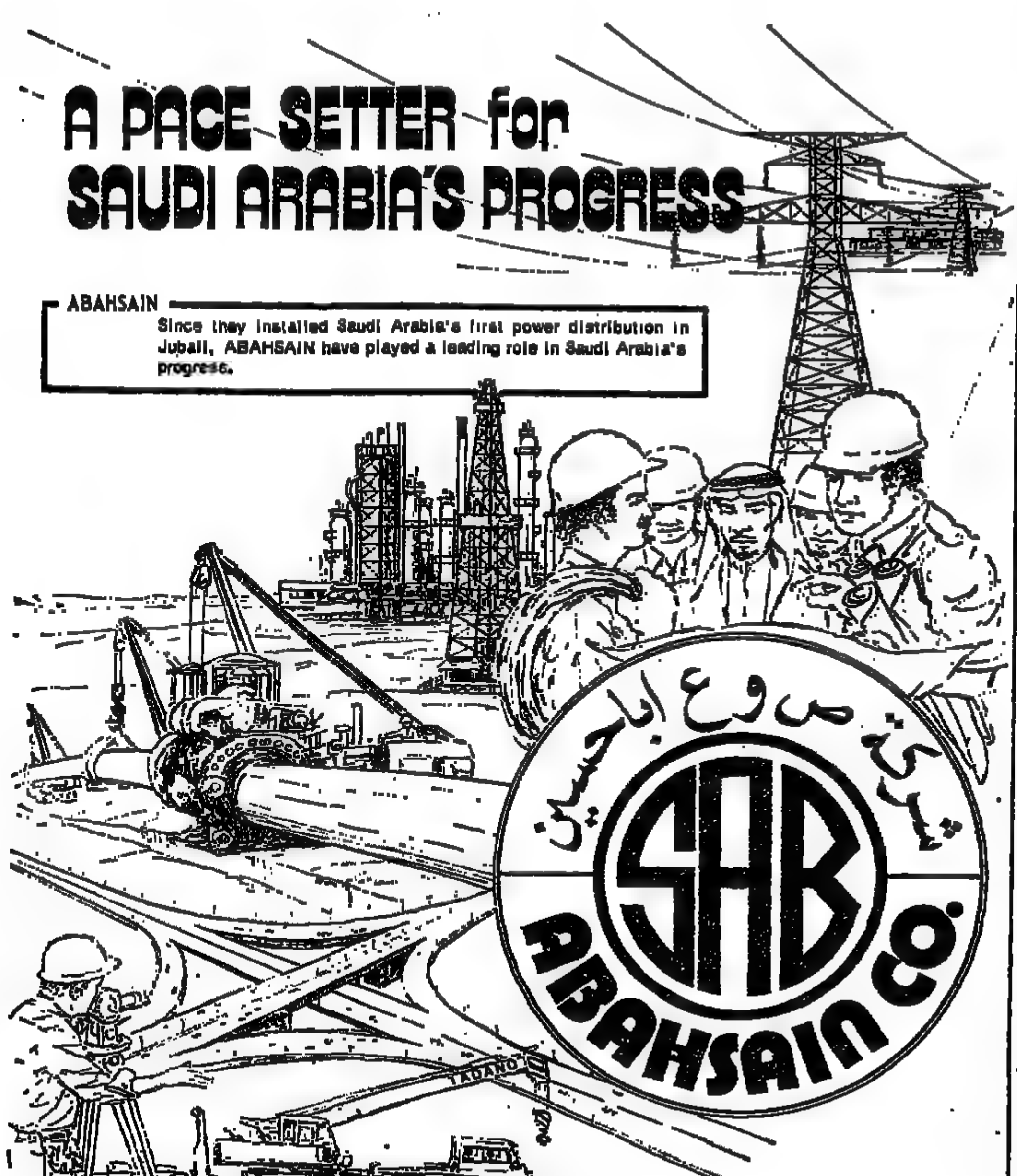
FRANCE
Banque de Paris et des Pays Bas
Banque Nationale de Paris

GERMANY
Deutsche Bank
Dresdner Bank
Commerzbank
Westdeutsche Landesbank
Bayerische Vereinsbank

JAPAN
Mitsubishi Bank
Bank of Tokyo
Sumitomo Bank
Dai Ichi Kangyo Bank
Fuji Bank
Sanwa Bank
Mitsui Bank
Industrial Bank of Japan

OTHER EUROPE
*Algemene Bank Nederland
*Swiss Bank Corporation
Credit Suisse
Credito Italiano
Banco Commerciale Italiano
Credit Bank of Brussels
Banque de Bruxelles
Skandinaviska Enskilda
Amsterdam-Rotterdam
Banco Centrale
Union Bank of Switzerland

Note: Not all banks on the list have accepted SAMA deposits on the terms offered, and there are very wide discrepancies in the amounts held by different banks. Banks are not told officially when they are placed on the list (or removed from it) and the list is not circulated among members.



Saudi Arabia's next development plan, 1980-85, will be a much more sophisticated document than the rather piecemeal current (second) plan. Its main emphasis is likely to be on developing the country's manufacturing capability, setting up major industrial projects and increasing agricultural output

Development plan

TO AN outsider it may seem surprising that a country with such a vigorous and unfettered private sector as Saudi Arabia should attach so much importance to planning and its five-year development plans.

In fact, planning is virtually essential in Saudia Arabia because Government spending accounts for about 75 per cent. of GDP, though the Kingdom is very different from other centrally planned economies. Planning has so far been a way of stating priorities and desirable objectives. The current $142bn. Second Five-Year Plan is — as its authors admit — more a list of intentions than a comprehensive plan in which each sector is seen in relation to others.

A good example of this piecemeal approach is the fact that in the current plan no real attempt was made to add up the imports that would be needed for each section of the plan and set them against present and proposed port capacity. The infrastructure was given less emphasis than was investment in productive assets, whose establishment could only take place after that of the infrastructure

To some extent this was due to the inadequate machinery and manpower available at the time for drawing up plans, and to the difficulty in the hectic days of 1974 and 1975 of ordering priorities in economic development. It was also due to the sheer lack of information about the economy, a result of poor economic and financial reporting, and to the novel economic situation Saudi Arabia was facing.

Planners

The next plan, covering the years 1980-85, promises to be a far more sophisticated affair. Saudi planners are already working on it and will be able to draw both o ngreater experience and on deeper knowledge of the economy. A firm of British consultants—Coopers and Lybrand—is building a model of the economy which will enable good input/output calculations to be made and thus give the plan a more precise and integrated structure. Already it is becoming clear that the main emphasis in the Third Five Year Development Plan is likely to be on industrial manufacturing, agriculture and services.

Despite the imprecision of the Second Development Plan the Government can already claim considerable achievement along the directions it aims to go. In real growth of GDP targets have been exceeded—in 1976-77 GDP at constant prices rose by 15.6 per cent. Even more impressive was the performance of the non-oil sector, which in the second year of the plan achieved 18.6 per cent. growth compared with the target of 13.4 per cent.; this suggests that the private sector has been more dynamic than the Government expected.

The Government has overcome the major bottlenecks in the economy, notably the ports, which has had the effect of reducing inflation and pressure on the economy. Now all the major infrastructure projects in the plan are at different stages of implementation.

In the social sector plan implementation has been uneven, with overachievement in some areas and underachievement in others. For example, more secondary schools were built in the second year of the plan than had been intended and in the same period 150 more primary schools were built than the 450 laid down in the plan. In some places schools have been built in expatriate neighbourhoods whose residents would not send their children to Saudi schools anyway.

The State housing programme is only now getting underway on a large scale, a year and a half behind schedule. But the problem has been partially solved by the private sector which, financed by the Real Estate Development Fund, produced 100,000 housing units in two years—against its target of 122,000 for the full five years. But because these are for high income families the problem of housing poorer families has so far only been nibbled at.

Development has been more sluggish on the State industrial projects to which Saudi Arabia is looking to provide revenues for the future. The schedules on such projects were always tentative, but even so building work has begun on none of them. Plans for a steel industry have been progressively scaled down so that as at present conceived its output would only be for local consumption, while the proposed aluminium smelter is being given little urgency. On the other hand the Saudi Government, through the Saudi Arabian Basic Industries Corporation (SABIC), is now negotiating joint venture agreements with Shell for the first petrochemical project (an ethane plant) at Jubail. Mobil is also doing design engineering work on an ethylene facility at Yanbo.

Other petrochemical plants are planned for both complexes, where the infrastructure is now being installed. The delays in going ahead with projects are partly the result of uncertainty in the Government as to what it wants (against a background of changes in industrialisation plans by Saudi Arabia's Gulf neighbours) and hesitancy on the part of the technical partners, since the Kingdom wants them to put up 15 per cent. of the capital in the form of equity and to handle marketing. The main problem, as the technical partners see it, is the higher cost of building and operating a plant in the non-industrial environment and the extreme climatic atmosphere of Saudi Arabia. The problem of marketing the output is less difficult, it is thought, provided the price is right, and provided there are no complaints from the western countries—the main market—that the Saudi plants enjoy hidden subsidies; such complaints could lead to tariff barriers being erected.

Cautious

The Government is still cautious about the viability of the projects, which is partly why it wants the technical partners to take an equity stake (the other reason is because they are essential for the marketing operation) and why it wants the Saudi commercial banks to put up about one-tenth of the capital for each project. "They will assess the projects again and will only come in if they judge them viable," says the Deputy Planning Minister, Dr. Faisal Beshir. "We are determined not to build white elephants and not to build for prestige."

All the signs indicate that as these vast projects get under way the Saudi economy will continue to grow rapidly in the next five or seven years, and at the cost of less economic strain than has been felt so far. Social strains have been far less than predicted: one of the achievements of the past three years is the way in which the highly diverse labour forces—drawn from countries as different as the U.S. and South Korea—has been absorbed with relatively little strain, partly because of the resilience of the Saudi social system which receives them and partly because of the dilution of labour by drawing it from many different sources and dispersing it all over the enormous country.

Some planners, including Dr. Faisal Beshir, believe that it may be possible to develop Jubail and Yenbo with only minimum increases in the labour force and possibly no increase at all. Much can be achieved by making increased use of highly productive labour — such as Koreans or Taiwanese — whose output may be several times that of other workers. If extra workers are needed they can be imported directly into Jubail and Yenbo from abroad rather than increasing the pressure on the domestic labour market.

The next plan is likely to concentrate more on agriculture than the present one. The planners believe that the potential may have been underestimated in the first plan, though a complete hydrological survey still needs to be completed before major investment decisions can be made. Agricultural development will be aimed not only at raising food production but also at keeping the rural population on the land, though many officials believe that the bedouin should continue the process, giving up their nomadic life but treating agricultural settlement as a halfway house on the way to urbanisation.

From the progress that has been made and the plans to augment it in the future some picture of Saudi Arabia can be formed. The image in the mind of the Government planners is of a state gradually moving from dependence on oil revenue to greater emphasis on downstream petrochemical industries, while the bulk of the Kingdom's population is drawn into the cities for work in service industry and Government, with some bedouin settling in sedentary agriculture. The concept of an Islamic industrial state—which is what Saudi Arabia intends to become—may seem strange to western minds; the creation of a rather more efficient economy without much of the social disruption that had been feared makes this goal more attainable; the major question is whether the western technical partners, no doubt encouraged by the drop in Saudi inflation, can be expected to back the concept to the extent the Saudi Government considers essential.

James Buxton

هكذا من الأصل

Just a bud that has blossomed into a bouquet

BINLADEN BROTHERS

for Contracting & Industry

is a Saudi Arabian company engaged in all types of civil and *mechanical construction.* Major turnkey projects executed since the establishment of the company in 1972 include airports, roads, *bridges* and *utility buildings.*

The company is geared to meet operating conditions throughout Saudi Arabia, and is supported by a substantial spread of wholly-owned equipment. In addition, BINLADEN BROTHERS produces and markets a comprehensive range of *construction supplies and services through in-Kingdom* subsidiary and associate companies.

BINLADEN BROTHERS has formed joint venture companies with partners providing technological and *management* capability beneficial *to the development of the Kingdom's infrastructure. It is* BINLADEN BROTHERS' policy to seek a *majority* holding in such ventures, which are all carefully studied for compatibility and viability in the *long term.*

The company owes its success to the highly professional management of its resources, coupled with integrity and single-minded dedication to the interests of Saudi Arabia. Total-work executed by the company since its inception in 1972 to end 1977 *approached one billion Saudi Riyals.*

The Brothers Binladen

The name Binladen became closely associated with major Government construction projects in Saudi Arabia during the *lifetime of Mohammed Binladen. The Organization* he created was among the largest of its kind in the Middle East, and was entrusted with the most important civil engineering projects of its day.

The well-integrated complex of specialized operating units *created and grouped together by his sons* today keeps the family name at the forefront of both public and private sectors of the construction industry in Saudi Arabia.

RESOURCES

Plant & equipment — *BINLADEN BROTHERS owns* and operates a comprehensive spread of plant for earth-moving, asphalting and concrete works. The value of equipment active on sites throughout the Kingdom as at mid-1977 amounted to SR 67 *million.* The company purchases direct from quality manufacturers and runs a stringent programme of preventive maintenance.

Maintenance facilities — Complete repair and maintenance facilities are established on-site for each of *the company's projects.* These are supported by the principal maintenance base in Jeddah which keeps continuous radio contact with the company's camps Kingdom-wide. Urgently

Fleet of aircraft — needed spares, as well as materials and personnel, *can be flown to site in a matter* of hours aboard one of the company's fleet of five aircraft.

Travel agency — To further facilitate the considerable movement *of its personnel both within and out*side the Kingdom, BINLADEN BROTHERS holds a controlling interest *in* a travel agency, Samara Travel.

International *network of* offices — In addition to its offices in Riyadh and the *Eastern Province, BINLADEN BROTHERS* has branches in Dubai, Amman, Cairo, Beirut, London and Houston. Collectively, these serve as centres for liaison with suppliers and manufacturers, and for recruitment.

BINLADEN AVIATION (BA)

BA is a semi-autonomous division of BINLADEN BROTHERS which operates the company's fleet of jet and turbo-prop aircraft, and provides maintenance support at its wholly-owned Jeddah facility. BA has undergone rapid expansion *in recent years to meet the growth in the fleet from two in* 1973 to seven in 1978, and today offers technical services to other private operators in the Kingdom.

ARABIAN AERO SURVEYS COMPANY (AASC)

A joint venture with Hunting Surveys Ltd. (UK), AASC *offers a full range of survey* services including aerial photography and cartography. The company supports BINLADEN BROTHERS airport and road construction projects, and is expected to play an important role in the continuing development of Saudi Arabia's infrastructure and *the exploitation of the country's vast mineral resources.*

BINLADEN BROTHERS CAPABILITY

BINLADEN BROTHERS has progressively extended its *project capability by forming* joint venture companies and ongoing associations with construction and engineering organizations of international standing. Supported by the substantial resources and expertise this network commands, BINLADEN BROTHERS can confidently address any construction *assignment Saudi Arabia may* require, *regardless* of its size, location or complexity.

Al Mihdar BINLADEN Development Company (MBDC)

(MBDC) offers a consultancy service to companies seeking entry into the Saudi Arabian market, particularly in the construction field. The company has identified and studied a number of potential joint venture arrangements on behalf of BINLADEN BROTHERS, and has been active in their implementation.

CONTRACTS AWARDED TO BINLADEN BROTHERS

Date awarded	Project requirement	Contract value (SR)	Date of Completion
February 1972	JIZAN AIRPORT PAVEMENTS Construction of a new 10,000 ft. runway and parallel 10,000 ft. taxiway; three lead-in taxiways, high-speed turn-off and two *concrete aprons; complete* AFL system and all related civil works and roadworks.	42 million	October 1973
August 1972	SECTIONS 2 & 4, JIZAN-TAIF ROAD Construction of retaining walls and rip-rap stone setting. (Subcontract to BINLADEN ORGANIZATION).	74 million	October 1973
May 1973	BISHA AIRPORT PAVEMENTS Reconstruction of main 10,000 ft. runway; new parallel taxiway; five lead-in taxiways, one *high-speed* turn-off; *four* concrete aprons, four aircraft shelters; all related civil works and roadworks.	55 million	November 1975
July 1973	TAIF-JIZAN ROAD (Road 54 Section 5)	65 million	July 1976
August 1973	AL JOUF AIRPORT (Phases I & II) Construction of a completely operational airport *comprising* 14,000 ft. main runway, with lead-in taxiway, concrete aprons, airport perimeter road and fence, approach road and airport road system; complete AFL system; terminal *building covering* $3,600m^2$; *fire and rescue* building; power house containing three 360 KVA generators, complete with HV and LV distribution systems to the airport; water supply building and 100,000 gallon reservoir, six houses, office block, military out-structures for sixty personnel and three hangars for light aircraft maintenance .	90 million	January 1976
August 1974	BADANA AIRPORT Phase I Construction of 10,000 *ft.* main *runway,* one lead-in taxiway, two concrete aprons, complete AFL system, access roads to airport and perimeter fence. Phase II (similar to the civil specifications of *Al Jouf Airport project above,* excluding the military out-structures but including one hangar for aircraft maintenance).	95 million	July 1975
February 1975	JIZAN AIRPORT BUILDINGS (Phase I)- Construction of terminal and cargo buildings, *power house* structure, water supply building and pump installation, fire and rescue building, meteorological building and guard house and military cantonment.	25 million	July 1977
August 1975	AL WEDJH AIRPORT BUILDINGS (Phase I) (Similar to Jizan Airport Buildings, above)	25 million	March 1978
January *1976*	*JIZAN AIRPORT PERIMETER* ROAD Construction of an 8.5 *kilometre* perimeter road around Jizan Airport.	*6.8 million*	*November 1976*
February 1976	BADANA PARALLEL TAXIWAY Construction of a 10,000 ft. parallel taxiway, *with two lead-in taxiways and airport drainage works; complete AFL system.*	31 million	February 1977
February 1976	AL JOUF PARALLEL TAXIWAY (Similar to Badana Parallel Taxiway project, above).	25 million	March 1977
January 1976	*MOUNA HELIPORTS Construction of* 14 elevated heliports *complete* with lighting and passenger elevators.	18 *million*	*November 1976.*
	UNDER CONSTRUCTION		
June 1977	MINISTRY OF HAJJ BUILDING Construction of a ten-storey office building for the *Ministry of Hajj in Riyadh.*	70 million	June 1979
October 1977	AL KHARJ AIRPORT Construction of a complete airport including runway apron, lead-in taxiway, airport drainage and perimeter fence. This project was successfully completed within the contractual period of eight months.	62.5 million	April 1978
December 1977	JIZAN AIRPORT BUILDINGS (Phase II) Extension of buildings and passenger facilities with associated utility services.	66.5 million	June 1979
December 1977	WEDJH AIRPORT BUILDINGS (Phase II) Extension of buildings and passenger facilities with associated utility services; construction of a mosque and a desalination plant.	63.5 million	June 1979

PROJECT MANAGEMENT
BINLADEN-Kaiser (BK)

Kaiser Engineers is one of the world's largest engineering and construction organizations. It provides a complete range of planning, engineering and construction services to governments and industry; and it has won world-wide recognition for its expertise *in the design and construction of plants* for aluminium, steel and cement, of facilities for mining and *mineral* processing, of power plants and transportation systems. Through this limited company in which BINLADEN BROTHERS has a majority holding, both partners seek to *participate* in the *large-scale industrial projects planned for* the Kingdom. It is BK's ultimate aim to transfer industrial technology to an indigenous staff organization.

REAL ESTATE DEVELOPMENT & HOUSING
BINLADEN-Kaiser-Losinger (BKL)

BINLADEN BROTHERS entered the field of real estate development in 1975 with the turnkey construction of a self-sufficient compound of 64 luxury units undertaken by BINLADEN-Kaiser and Losinger Ltd., Switzerland's largest civil construction company, as an ad hoc joint venture.

BUILDINGS & SPECIALIZED STRUCTURES
BINLADEN-EMCO (BEMCO)

BINLADEN BROTHERS partner in BEMCO pioneered the introduction of pre-stressed, reinforced, pre-cast concrete systems to the Arab World in 1960. BEMCO's turnkey contracting capability *covers the design and construction of* high-rise residential buildings, commercial centres, housing complexes and such public utilities as mosques, government office blocks, hospitals, hotels and sports stadia. The operational experience harnessed by the company guarantees on-time completion of any project requiring specialized concrete works.

PREFABRICATION

The diversified construction interests of BINLADEN BROTHERS include a substantial holding in Al Fadl-BINLADEN J&P (AB J&P), a Saudi Arabian company which *specializes in the manufacture and erection of low-cost pre*-fabricated structures. It has successfully introduced into the Kingdom the modular system developed by the pre-fabrication division of the multi-national Cyprus-based J&P corporation. With *its own fully independent factory* in Jeddah for the production of components, plus in-house electrical and plumbing capability, AB J&P guarantees rapid erection, *economy* and a wide choice of finishes and fittings. *Projects* executed Kingdom-wide include accommodation camps, offices, school buildings, showrooms and hotel extensions.

ELECTRO-MECHANICAL ENGINEERING & SUPPLY
BINLADEN-*Saxsons Electro-mechanical Company* (BSEM)

BSEM is a joint venture company formed between BINLADEN BROTHERS *and Saxsons Climate Condition Co.,* one of the most experienced firms of electro-mechanical engineers in the Middle East. The BSEM team of 20 graduate engineers is supported by a staff of over 130 specialized technicians and administrative personnel. Headquartered in Jeddah, the company *has a self-sufficient complex comprising stores, accom*modation facilities and workshops which are duplicated in Alkhobar. A Riyadh liaison office rounds out BSEM's Kingdom-wide service capability, which covers the study, design, supply, engineering and maintenance of large-scale turnkey *electro-mechanical installations.*

BSEM has the exclusive distributorship in Saudi Arabia for Trane Company (USA), one of the world's leading manufacturers of air conditioning equipment. The company also has distributorship arrangements in the Kingdom for KeepRite *window-type room units, Remington floor-type incremental* units; Baltimore air coils, Powers regulators and Kone-Westinghouse elevators.

Within its first year of operation, BSEM turned over more than SR 50 million: as at end 1977, work under execution *exceeded SR 150 million. Among the varied projects to which* the company has contributed are the airports serving Al Jouf, Wedjh, Badana and Jizan; and the ITT telex exchange buildings in Jeddah, Riyadh, Alkhobar, Dammam, Taif, Mecca, Medina and Qatif.

TELECOMMUNICATION ENGINEERING & SUPPLY

The telecommunication arm of BINLADEN BROTHERS is BINLADEN Telecommunications Company (BTC). Through selective representations, its supply and installation capability *ranges from small key systems through 7,000-line electronic* and digital PABX's to power and telecommunication cabling of technologically advanced design. Principal among BTC's exclusive representations in Saudi Arabia are Bell Canada and its manufacturing affiliate Northern Telecom, which together *provide 80 per cent. of Canada's telecommunication* services and equipment. Backed by the resources of these companies, and those of Bell-Northern Research Centre in Ottawa, BTC is well placed to participate with other BINLADEN BROTHERS operating units in the implementa*tion of large Government telecommunication schemes.* Among the major projects to which BTC has already contributed are New Jeddah International Airport (microwave, radio and 1,000-line telephone switching); King Abdul Aziz University (radio and 1,000-line telephone switching); and Islamic Jeddah *Seaport (radio and 3,000-line telephone switching).*

After-sales servicing and maintenance support are provided by factory-trained engineers at BTC's offices in Jeddah, Riyadh and the Eastern Province.

TRAFFIC ENGINEERING
Saudi Traffic Safety (STS)

BINLADEN BROTHERS partner in Saudi Traffic Safety (STS) is the world's largest *highway marking company. Pioneers in* traffic engineering for over 25 years, Prismo Universal have developed an outstanding range of techniques and materials through which STS seeks to promote safety on the roads of Saudi Arabia.

SUPPORT INDUSTRIES

To ensure the continuous availability of basic construction supplies in Saudi Arabia, BINLADEN BROTHERS has developed a wide range of support industries, notably in the Jeddah area. Besides *satisfying* the requirements of BINLADEN BROTHERS projects, these industries generate a *surplus which is sold on the open market.* In nearly all cases, they have been pioneering ventures for the Kingdom. BINLADEN BROTHERS has approved plans to establish a central industrial estate at Kilo 18 on the Jeddah-Mecca Road where the majority of these industries are to be relocated by 1980.

BRICK MANUFACTURE

The BINLADEN BROTHERS brick factory, the first of its kind to be established in Saudi Arabia, is located to the east of Medina near abundant supplies of prime clay and sand. Its annual capacity is 11 million units on a single-shift basis. Output comprises *a range of kiln-fired hollow bricks* in addition to heavy duty solid bricks and concrete bricks for decorative purposes.

The quality of the product, claimed to be the highest in the Kingdom, is attributable to a number of factors: the use of the finest raw materials: the company's long experience in the field; the rigid control exercised at all stages of production *from clay vibration to kiln firing; and the efficiently-run semi*-automatic plant, owned and managed entirely by BINLADEN BROTHERS.

BINLADEN BROTHERS *aluminium factory*

located at the company's industrial site near Jeddah, manufactures anodized aluminium doors and windows to British *Standard Specifications under* licence to Crittall Windows Ltd. (UK). The modern 2,500 square metres factory, the first of its kind in the Kingdom *to* be geared to mass production, has a capacity of 85,000 square metres a year on a three-shift basis.

AGGREGATE PRODUCTION

The BINLADEN BROTHERS aggregate division is the largest *in the Middle-East. Its* wholly-owned resources include six complete crusher sets with capacities ranging from 300 tons/hour to 350 tons/hour, a fleet of transporters, water tankers and trucks, and a spares and maintenance department for technical support. The division's operational experience in *many parts of* the Kingdom *facilitates* the *smoothly* co-ordinated mobilization of these resources in locations determined by thorough site investigation and laboratory analysis.

READY MIX CONCRETE PRODUCTION

BINLADEN BROTHERS has a major shareholding in Ready Mix Saudi Ltd. (RMS), a joint venture with Redland Ready Mix, one of the UK's major producers of ready-mix concrete. RMS *pioneered* the *introduction* of ready-mix concrete on a commercial basis in Saudi Arabia. Delivery to site as required of concrete to controlled specifications and of guaranteed strength won the instant approval of contractors. The RMS service helps maintain project performance in the face of spiralling costs, demanding completion targets and skilled labour shortages.

The company's fleet of vehicles deliver to both large and small contractors within a fifteen kilometre radius of the Jeddah-based RMS plants. A Schwing concrete pump with a $50m^3$/hour capacity supplements the fleet for deliveries where access is difficult.

DOORS AND PARTITIONS

In a joint venture with Bruynzeel (Holland), BINLADEN BROTHERS will produce quality wood doors, kitchen units and internal partitions in a factory located near Jeddah. The factory will be the largest of its kind in the Kingdom with an annual single-shift capacity of 200,000 doors.

SCAFFOLDING FABRICATION

BINLADEN BROTHERS has a controlling interest in the National Scaffolding Company (NSC), a Saudi Arabian company formed jointly with Tower Al Futeim Scaffolding (UK). The *carefully studied venture will be the first in the Kingdom* to supply locally finished scaffolding elements from its factory near Jeddah, where start-up is programmed for 1978.

PERLITE SUPPLY

Through Saudi Perlite Company (SPC), a *joint venture* in which BINLADEN BROTHERS has the majority holding, the benefits of perlite are to be introduced into Saudi Arabia. BLB's partner in this venture owns the largest perlite mines in Europe, a guarantee of continuous supply.

This naturally occurring mineral, once treated under high temperature, provides the cheapest form of insulation known. In addition to its immense value to the Kingdom's construction industry, processed perlite has important applications in unrelated fields such as agriculture and pollution control.

Marketing of imported ready-processed perlite began end 1977, and SPC plans to meet the demand that the introduction of this remarkable product has created by establishing its own plant in the Kingdom by end 1978.

TRADING

The trading arm of BINLADEN BROTHERS developed out of the company's requirement for large quantities of construction elements and materials. The division supplies the parent company and its affiliates and subsidiaries, in addition to the *open market.*

Availability of stock for on-the-spot inspection and immediate supply, together with installation capability and maintenance back-up, have found a ready market for the BLB trading division among clients who have traditionally been obliged *to deal with remote suppliers.*

Where viable, the exclusive agency agreements formed with principals can lead to joint venture arrangements for the in-Kingdom manufacture of these products under licence.

STRUCTURAL STEEL

BINLADEN BROTHERS imports structural steel elements under an exclusive agency agreement with Varco Pruden (USA) and undertakes the erection of warehouses, factories, maintenance facilities and buildings throughout the Kingdom. *In 1976, BINLADEN BROTHERS supplied elements covering* a total of $100,000m^2$; by 1979, it is expected that the annual total will exceed $200,000m^2$.

FENCING

BINLADEN BROTHERS has the exclusive agency in Saudi Arabia for Heras Hekwerk (Holland), manufacturers of a range of fencing materials. Major supply and erection con*tracts that have been carried out with Heras products include* fencing for airport perimeters, industrial complexes and schools.

SUSPENDED CEILINGS

As exclusive agents in Saudi Arabia for Alphacoustic (France), BINLADEN BROTHERS stocks, supplies and fits a wide selection of quality suspended ceilings.

FURNITURE

Turnkey projects undertaken by *BINLADEN BROTHERS* involving the supply of furniture led to an exclusive agency agreement for Saudi Arabia with Pander Projects (Holland). A company active world-wide, Pander designs and manufactures standard and luxury furniture for numerous applica*tions, including offices, official residences and public utilities* such as airports and hotels.

Head Office:
Amariah, Jeddah.
POB 2734, Jeddah,
Saudi Arabia.
Cables: LADENCO JEDDAH
Telex: 401044 BINLDN SJ
401071 BINBRS SJ
Telephone: (021) 29088,
29333,
28487.

RIYADH:
POB 105, Riyadh.
Telex: 201104 BINRIAD SJ
Telephone: (011) 61427, 61428

DAMMAM:
POB 58, Dammam.
Telephone: (031) 24070.

AMMAN:
POB 5181, Amman,
Jordan.
Telex: 1207 JORHTL JO
1267 JORHTL JO
Telephone: 41620.

DUBAI:
POB 1555, Dubai.
Telex: 5991 BINLADEN DB
Telephone: 21516, 27726, 27632.

CAIRO:
9, Arab League Building, Cairo.
Telephone: 708634, 707252.

BEIRUT:
POB 113-5013,
Beirut, Lebanon.
Cables: RAYPAR
Telex: 21692 RAYCO LE
Telephone: 346662.

LONDON:
BINLADEN LONDON LTD.
Suite 2,
140, Park Lane,
London W1Y 3AA
Telephone: 01-493 0522/3
Telex: 299971 *BINLON G*
269385 SALIAN G

HOUSTON:
Suite 1109, Fannin Bank Building,
Houston, Texas.
Telex: 774552 BINBROS HOUS
775858 EXECJET HOUS
Telephone: (713) 795-0004.

ARABIAN AERO SURVEYS,
POB 5079, Riyadh, Saudi Arabia.
Telex: 201125.
Telephone: 65410.

Al Fadl-BINLADEN J&P (AB J&P)
POB 5028, Jeddah.
Cables: JAYLADCO JEDDAH.
Telex: 401116 BAKHSH SJ.
Telephone: (021) 51249.

BINLADEN Aviation
POB 2734, Jeddah.
Cables: LADENCO JEDDAH.
Telex: 401044 BINLDN SJ
401071 BINBRS SJ
Telephone: (021) 74664.

BINLADEN-EMCO (BEMCO)
Head office:
POB 105, Riyadh.
Telex: 201104 BINRIAD SJ.
Telephone: (011) 63362.
Jeddah branch:
(care of BINLADEN BROTHERS)

BEIRUT BRANCH:
POB 113-5013.
Beirut, Lebanon.
Cables: RAYPAR
Telex: 21692 RAYCO LE
Telephone: 346662.

BINLADEN-Kaiser (BK)
POB 2734, Jeddah.
Cables: LADENCO JEDDAH.
Telex: 401071 BINBRS SJ
401044 BINLDN SJ
Telephone: (021) 51512.

AL MIHDAR BINLADEN Development Co. (MBDC)
POB 4445, Jeddah.
Telephone: 74791, 73403

BINLADEN-Saxsons Electro-mechanical Co. (BSEM)
Head office:
POB 3143, Jeddah.
Cables: BINSAXSONS JEDDAH
Telex: 401071 BINBRS SJ
401044 BINLDN SJ
Telephone: (office) (021) 36873, 35705
(workshop) (021) 21843

ALKHOBAR:
POB 54, Alkhobar,
Saudi Arabia.
Telex: (as Jeddah)
Telephone: (031) 41933.

BINLADEN Telecommunication Co. (BTC)
POB 6045, Jeddah.
Cables: LADENCO JEDDAH
Telex: 401071 BINBRS SJ
Telephone: (021) 52041, 55186.

BINLADEN Trading
POB 2742, Jeddah.
Cables: LADENCO JEDDAH
Telex: 401071 BINBRS SJ
401044 BINLDN SJ
Telephone: (021) 34543

READY MIX SAUDI (RMS)
POB 5948, Jeddah.
Telex: (care of BINLADEN BROTHERS)
Telephone: (021) 55161/2/3.

SAMARA TRAVEL

SAUDI TRAFFIC SAFETY (STS)
POB 105, Riyadh.
Telex: 201104 BINRIAD SJ
Telephone: (011) 33676.

As well as oil, Saudi Arabia is sitting on enormous reserves of natural gas. It is hoped to use these both for export and to fuel industrial installations at Jubail and Yanbo, but the Government has still to make up its mind about the scale of these projects.

Gas gathering

NOT CONTENT with being the world's largest exporter of crude oil, Saudi Arabia has now embarked on an ambitious project which should earn it the same role in natural gas liquids (NGL). Aramco is supervising a gas-gathering project—one of the largest industrial enterprises in the world ever taken on—in the Eastern Province. By the mid-1980s the aim is that Saudi Arabia should not only be providing exports, but also fuelling its industrial areas in Jubail on the Gulf and—linked by a 1,270 km pipeline being built by Petromin and Mobil—its counterpart at Yanbo on the Red Sea.

Saudi Arabia's gas reserves at the beginning of this year, according to the Oil and Gas Journal, were 85,000bn. cubic feet. Saudi Arabia produces almost exclusively gas associated with crude oil, and therefore its production levels reflect closely those of oil. About three-quarters of its production until recently has always been flared off. Aramco has two limited natural gas fields in the Kidan field beneath the Rub al-Khali (the Empty Quarter) and a small deposit in Khuff limestone of the Permian era underneath Dhahran.

Aramco already has a gas-gathering system drawing on its operations in southern oil fields. Some is used for reinjection into oilfields, some for local fuel, and some is piped to the Saudi Cement Company plant at Hofuf. Other gas is gathered into a collection centre at Abqaiq where it is separated into NGL and pumped to the fractionation and treating plant at Ras Tanura, and into methane as feedstock for the SAFCO fertiliser plant and industrial facilities at the Ras Tanura refinery.

In 1976 Aramco produced 67.6m. barrels of NGL (184,776 barrels/day) and the capacity of its facilities now stands at 320,000 b/d with exports amounting to between 200,000 and 250,000 b/d. The increase comes as a result of a new NGL construction and processing plant at Berri coming on stream last October. Its principal constructor was Fluor. This treats high-pressure gas from a gas-oil separator plant and is designed to recover 52,000 b/d of NGL from a gas throughput of 600m. cubic feet/day. Initially its production was in the range of 400m. cfd (reflecting a crude oil production of between 900,000 and 1m. b/d from the Berri field). Initially it separates the gas into two streams—one NGL for Ras Tanura and the other high quality residual gas to be used as an industrial fuel.

One more stream is to come, of ethane to Ras Tanura. Later, under an expanded programme of throughput from additional fields—Qatif, Khursaniya, Fadili and Abu Hadriya — it will increase its handling to 80,000 b/d. According to the Nicosia-based Middle East Economic Survey (MEES) Aramco's production—on the basis of a level of 300,000 b/d—was divided between 125,000 b/d propane, 90,000 b/d butane, and 85,000 b/d natural gasoline.

Changes

The major gas-gathering project has undergone some considerable cost changes since, in May 1974, Petromin, the State oil and mineral resources organisation, first decided to conduct studies on it (undertaken by Texas Eastern Transmission Co. of Houston). Originally projected to cost $5bn. it was revised upwards at the end of 1975 to $10bn. and then again to $16bn. in 1976. This was partly as a result of raising capacity from 3.5bn. cfd of associated gas input to 5.5bn. cfd (or to gas quantities produced from an oil production level of 12m. b/d) and also from the addition of the Yanbo fractionation plant and the trans-peninsular pipeline.

Since then, however, an additional number of uncertainties have been introduced. First, the Government has not yet decided on the full scale of the industrial projects at Jubail and Yanbo which would be using the gas gathered for fuel. Second, it is not firmly established what long-term oil production capacity level the Government intends. Third, if the 65 per cent. ceiling on Aramco's offtake of light Arabian crude is maintained (as announced earlier this month), there will have to be further variants on the levels of oil production, for in broad terms lighter crudes produce more gas per barrel than other grades.

Fourth, there has been some change in the size of operations. Originally, the project was to collect all the gases of major fields, but now production from the northern offshore fields of Safaniyeh, Marjan and Zuluf has been postponed indefinitely. This is partly because offshore production would be more costly (up to $6bn. for the three fields, according to sources in Aramco) and because production from these fields would represent in any case only between 10 and 15 per cent. of gas reserves.

In broad terms, the project, for whom the main contractors are Fluor, Bechtel and Ralph M. Parsons and sub-contractors Redec-Dailim (South Korean), Foster-Wheeler (U.S.) and Arinco and Safami, two Saudi-based companies, now stands to have built beside the existing Aramco system new NGL processing and conditioning centres at Uthmaniya and Shedgum (both on the Ghawar field) and at Safaniyah. Plans for centres at Khurais and Abqaiq have been indefinitely postponed.

At present, besides the completed plant at Berri, the construction of recovery plants at Shedgum and distillation and export plants at Ju'aymah is expected to be completed in 1980, for operation in the middle of that year. The building of the gas plant at Uthmaniya has reached the stage of the site levelling and at the Yaubo distillation plant site levelling is to begin in the middle of 1978. They are both expected to be in operation at the end of 1982.

In the operation of the project, after the separation of the NGL and desulphurisation, the gas is to undergo compression and partial fractionation to produce a dry gas stream and a wet liquid gas stream. The former (methane) is to be used as fuel and feedstock by Aramco and by the petrochemical industries, notably at Dammam and Jubail. The wet stream—an NGL plus ethane—is to be moved to fractionation plants at Ju'aymah to produce propane, butane and natural gasoline for exports and the ethane would be pumped to Jubail for feedstock.

The final input is reckoned a 5.5bn. cfd of associated gas but at present only 4bn. cfd could be captured of which 2.5bn. cfd of residual gas would be used for industrial fuel, while 750m. cfd would be used for gas injection and the same quantity for flaring. It is also to produce 400 b/d of ethane, 650,000 b/d of NGL and 4,000 tons/day of sulphur (all below the original estimates for the final production). However, it is still reckoned, as schedules slip by reflecting changes in official assessments of oil production levels and the demands of potential users, that costs of the whole mammoth project could be as high as $20bn. Aramco expects a final decision within a few weeks.

Anthony McDermott

ISLAMIC CALENDAR

This is based on the Hijrah, the migration of Prophet Mohammed from Mecca to Medina which took place on July 16, 622 AD, which is year one in the Islamic Calendar. It is the official Calendar in Saudi Arabia. The Calendar is lunar, and each year has 354 or 355 days, the extra day being intercalated 11 times every 30 years.

There are twelve months:

1. Muharram	30 days	7. Rajab	30 days
2. Safar	29 days	8. Shaaban	29 days
3. Rabia I	30 days	9. Ramadan	30 days
4. Rabia II	29 days	10. Shawwal	29 days
5. Jumada I	30 days	11. Dhu'lQa'da	30 days
6. Jumada II	29 days	12. Dhu'l-Hijja	29 or 30 days

The Hijri year begins on the day of the month indicated:

ISLAMIC	CHRISTIAN	
1390	1970	March 9
1391	1971	February 27
1392	1972	February 16
1393	1973	February 4
1394	1974	January 25
1395	1975	January 14
1396	1976	January 3
1397	1976	December 23
1398	1977	December 12
1399	1978	December 2
1400	1979	November 21
1401	1980	November 9

Festival dates are determined by the moon, and there are many local differences. It is therefore advisable to avoid them (especially Id al-Fitr) by some days both before and afterwards.

Moulid al-Nabi (Prophet's birthday)	February 20
Leilat al-Miraj (Ascension)	July 3
Ramadan begins	August 4
Id al-Fitr (end of Ramadan)	September 4-7
National Holiday	September 12
Id al-Adha (Feast of the Sacrifice)	November 11-14
1st Muharram	December 1
Ashoura	December 12

FINANCIAL YEAR

This is of 12 months' duration, but begins in Rajab, the seventh month of the lunar Hijri year. Thus, the year 1396-97 lasted from June 28, 1976, until June 17, 1977, and the year 1397-98 will last from June 18, 1977 to June 7, 1978.

Refineries, petrochemical projects, cement factories, aluminium smelter, fertiliser plants and an iron and steel complex are some of the public sector projects under consideration or being implemented. The private sector is also active, especially in joint ventures with foreign companies.

Heavy industry

ONE DREAM at least in Saudi Arabia came true last week. The manager of Al Hofuf cement factory, Mr. Muhamed Hossari, who has worked for 20 years for the privately owned Saudi Cement Company, saw the commissioning of the $170m. expansion which makes the plant by far the biggest producer in the country and the most modern in the Middle East.

"It really is like a dream come true. When I came here in 1958 there was nothing but desert. When we went into production in the 1960s I never thought we would have all this," he said, pointing to a plan of the integrated computer control system.

The SR600m. investment in the latest West German equipment means that one man in the cool gleaming computer room will be able to monitor trol the entire operation, from the limestone quarrying to loading trucks or trains with bagged cement. The plant will soon produce 4,500 tons a day, equivalent to 1.4m. tons a year, which is twice the combined production of the two existing plants at Jeddah and Riyadh.

Al Hofuf is a dream turned to reality, but industry elsewhere in Saudi Arabia remains confined for the most part to plans for the future. The Kingdom is desperately ambitious to build up its heavy industry and is determined to become a major petrochemical producer.

Among projects now at various stages of discussion with different potential technical partners are: an export refinery and petrochemical complex at Yanbo on the Red Sea (Mobil); an export refinery and petrochemical complex at Jubail (Shell); three further petrochemical complexes (Exxon, Dow Chemical and Mitsubishi); another refinery (Caltex); two methanol plants; two nitrogenous fertiliser plants; an aluminium smelter; and an iron and steel complex. These projects are divided between SABIC, the Saudi Arabian Basic Industries Corporation and Petromin, the General Organisation for Petroleum and Minerals.

The private sector also has ambitious plans, though entrepreneurs have been slow to move into heavy industry, eschewing huge capital outlays and the longer wait for a return on investment. The Saudi Cement Company anticipates that the Kingdom's 5m. tons consumption of cement last year will rise to 10m. tons by 1980 as indicated in the five year plan. It is setting up a Saudi-Bahraini company which will produce 6,000 tons of cement a day at its first stage in 1979, the plant being built north-east of Al Hofuf.

Planned private sector plants which involve such entrepreneurs as the Alireza family, the Ankari family and Ghaith Pharaon's company, Redec, are mainly joint ventures with foreign steel companies, including Sumitomo and the Canadian company Costeel. The absence of tariff protection barriers for such import-based projects has left some proposed ventures somewhat in the air but E. A. Juffali and Brothers have built a joint venture assembly plant for trucks with Mercedes Benz.

SABIC was set up by the Government (which subscribed the full SR10bn. capital to oversee the development of the Kingdom's plans to develop downstream industries using hydrocarbon resources. The corporation started a series of preliminary feasibility studies in co-operation with potential equal joint venture partners,

CONTINUED ON NEXT PAGE

هكذا من الأجل

As the world's second biggest oil producer—after Russia—and the largest exporter, Saudi Arabia has a strong voice in the councils of OPEC. It has used this, successfully, to urge moderation in price increases. In the Kingdom itself discovery of new reserves continues to outstrip the physical offtake.

Oil production

SAUDI ARABIA last December once again emphasised its key role in the Organisation of Petroleum Exporting Countries (OPEC) by forcing its fellow members at the Caracas meeting—notably including the Shah—to adopt its line that there should be no price rises for another 12 months. This is additionally in the face of the dollar's weakening. Saudi Arabia has said on several occasions that it was not out to abandon the dollar as a means of oil payments, but like others it is studying the relationship between the dollar and Special Drawing Rights of the IMF as an alternative method of payment.

At Doha in December, 1976, Saudi Arabia had again played an important role, as it can as second world producer after the Soviet Union and largest exporter, at an OPEC meeting by holding out, with the United Arab Emirates (UAE), for a 5 per cent. price rise against the other 11 members who wanted an initial 10 per cent. rise followed by another 5 per cent. later in 1977. In June a compromise was reached whereby the 11 upper tier agreed to forgo the extra, and Saudi Arabia and the UAE agreed to bring their prices up to 10 per cent. more than those prevailing at the time of the Doha conference.

Circles

The Saudi Government announced it would raise its oil production ceiling from 8.5m. barrels/day to 10m. b/d to ensure there was sufficient oil in the market to keep prices down. However, Saudi Arabia was only partially successful in this, which led to some controversial and unproven accusations—reflecting on Aramco's technical abilities—about water encroachment into wells, salt-water corrosion of water pumps and pipelines, and a drop in reservoir pressure. These have been firmly and convincingly denied (although corrosion is known and admitted to be a long-standing local problem). However, it is the view in some diplomatic circles that where Aramco might have been at fault was in not keeping the Saudi Government informed that it could not keep production on a sustained basis at the required 10m. b/d ceiling because of technical bottlenecks, even though the installed hardware is there.

It has to be added that Aramco had some serious misfortunes. During the first two months of 1977 bad weather hampered loading at the terminals, and in May a fire damaged pipelines and a key pumping station in the Abqaiq field, the third largest, which resulted in the loss of between 2 and 3m. b/d and damages of around $100m. In September, Sheikh Ahmed Zaki Yamani, the Minister of Petroleum, announced that production was to be limited to a 8.5m. b/d ceiling, which is being sustained throughout this year. Nevertheless, production in 1977 totalled 9.20m. b/d, of which the contribution of the Arabian-American Oil Company—Aramco—was 9.02m. b/d; the remaining 187,500 b/d came from Getty Oil Company and the Arabian Oil Company, operating respectively onshore and offshore in the Neutral Zone shared with Kuwait. This marked a rise in total production of 7.3 per cent. over the level of 1976, which was 8.58m. b/d. Production levels in January had fallen to 8.96m. b/d, but it is estimated that an annual level of 8.5m. b/d will bring in an income of about $38bn.

Apart from an average of about 550,000 b/d reserved for refineries, all Saudi crude oil production is exported. In 1976, Japan was the main importer with 19.3 per cent. of the total, followed by France with 12.33 per cent., Italy 6.9 per cent., Holland with 5.3 per cent., the U.K. with 5.1 per cent., and the U.S. (whose dependence has since increased considerably) with 4.68 per cent.

Decisions

The Kingdom faces some difficult and fundamental decisions about its long-term production policies. Because of the lead time of about ten years required for the development of new large-scale energy projects, a decision will soon have to be made. Basically, Saudi Arabia has to decide whether it should raise its oil producing capacity to meet the rising demands of the West during the next decade. The ramifications of such a decision are obviously as political as they are economic and impinge on the search for a solution to the Arab-Israeli conflict, the development of the West's economy and Saudi Arabia's ability to call the tune in OPEC.

The country's current economic requirements are for income deriving from not much more than 6m. b/d, and projections of demand as required by the U.S. have been put as high as 16m. b/d (the U.S. is convinced that this could be achieved by the investment of $20bn. and by maintaining reservoir pressures partly by the reinjection of natural gas and secondary recovery). Saudi Government plans aim at present at raising production to about 14m. b/d by 1985, but there is a growing conservationist lobby in senior circles. Saudi Arabia's reserves, according to Aramco, are 110.2bn. barrels proven (that is recoverable with present technology) and 177.5bn. barrels probable. The Government estimates the proven reserves higher at 151.4 bn. barrels.

Last month Sheikh Yamani announced that a 65 per cent. ceiling would be imposed on the proportion of Arabian Light crude offtake by Aramco. The average blend of Saudi crude has four components: Arabian Light (between 32 deg and 36 deg API, mainly from the Abqaiq and Ghawar fields—about 70 per cent. of production), Berri (another light crude of 38 deg API named after the oil field itself—up to 9 per cent.); Arabian Medium (29 deg-31 deg API drawn from the Khursaniyah, Abu Safah, Qatif, Zuluf and Marjan fields—between 3 and 5 per cent.); and Arabian Heavy (26 deg-28 deg API from the Safaniyah field—between 10 and 12 per cent.). However, the proportions of production do not coincide directly with estimated reserves of these different blends, which are believed to be Arabian Light and Berri about 60 per cent.; Arabian Medium 15 per cent.; and Arabian Heavy 25 per cent. In imposing this ceiling on Arabian Light, one aim is to conserve reserves, but at the time of the announcement Sheikh Yamani also said that other light producers in OPEC were having difficulty selling their oil. This move has been taken as a conciliatory gesture to encourage other OPEC members to adhere to the general Saudi-led drive for not raising oil prices this year.

At the same time, Saudi Arabia, with other medium and heavy producers such as Iran, Iraq, Kuwait, and Venezuela, met in Geneva at the beginning of February to study the differentials in prices between those crudes and light crudes with a long-term view to enticing consumers to switch from the less plentiful lighter crudes.

Although the days of discovering huge fields on the scale of Ghawar (241 km. long and 35 km. wide and with reserves estimated at 68bn. barrels), Safaniyah (offshore, with reserves estimated at 25bn. barrels) or Abqaiq, are over, Saudi Arabia continues to increase its reserves each year by discovering more oil than it produces. Aramco has currently about 26 exploratory rigs operating but has not reported the discovery of new fields since Suban, Sharar (both onshore) and Hasbah (offshore). Of 37 fields, production is coming only from 15 at present with the main producers: Ghawar (more than 5m. b/d), Safaniyah (nearly 1m. b/d), Abqaiq (over 750,000 b/d) and Berri (over 500,000 b/d). Of Marjan and Zuluf (offshore), which were shut down in 1976, the latter has been brought back on stream, increasing considerably the production of medium crude. The former is expected on stream shortly.

To maintain levels of productivity, Aramco has for 24 years been injecting gas to keep up reservoir pressure. On average 350m. cu. feet/day (out of a total capacity of 400m. cu. feet/day) are injected together into the Ghawar and Abqaiq fields. Existing water injection volumes are into Abqaiq 1.2m. b/d, Berri 1.3m. b/d, Ghawar 4.2m. b/d, Uthmaniyah, Shedgum and Ain northern area seawater is to replace the current 4.2m. b/d of subsurface water), Hawiya 800,000 b/d, and Khursaniyah 80,000 b/d. The first phase of a huge seawater injection plant—the largest in the world—is to come into action at Ras al-Qurayyah on the Gulf in June at the rate of 2.7m. b/d initially, and then three months later an additional 1.5m. b/d, with the intention in the early 1980s of reaching 12m. b/d—at a total cost of $1bn.

For some time now, negotiations for the full takeover of Aramco (currently 60 per cent. owned by the Saudi Government, 12 per cent. each for Socal, Texaco, and Exxon and 4 per cent. for Mobil) have been in their final stages. Under the terms of a "general accord" reached in March, 1976, it was agreed that after the 100 per cent. takeover, the four companies would continue to run oil production operations for the Saudi Government and would be paid an administrative fee of 21 cents/barrel made up of 15 cents as operating fees and 6 cents as exploration fees. They would continue to lift the bulk of the crude produced at the market price set by the Saudi Government and put their own risk capital for exploration in Aramco's concession. In the event of an oil discovery, the Government would repay the companies their outlay plus a specific fee per barrel of discovered oil and a corresponding additional allocation of crude entitlement. Aramco, from a concessionaire company, would become a service company operating in the oil sector as well as in such other sectors as gas exploitation, electrification of the Eastern Province and the execution of certain industrial projects. Compensation to the four groups for their equity share may amount to $1.5bn.

A.McD.

Industry

CONTINUED FROM PREVIOUS PAGE

examining the market mainly for the ethylene-based range of petrochemical derivatives. (Ethylene gas is the major starting point for a series of petrochemical derivatives from plastics to pharmaceuticals.)

Last month an agreement was signed in Houston, Texas, establishing the SABIC Celanese Company, a joint venture with Celanese Chemical and Texas Eastern. Detailed feasibility studies will continue for a plant in Jubail to produce 2,000 tonnes a day of methanol from which building materials, glues, solvents and anti-freeze can be made. This followed a feasibility study agreement last year for the Sabic-Japanese Consortium (Methanol Project), a joint venture with Mitsubishi Gas Chemical Company, C. Itoh and W. R. Grace, with a view also to producing chemical grade methanol using methane as feedstock.

Further advanced is a 50-50 joint venture with Mobil Oil, called SABIC-Mobil Petrochemical, which is proposing to construct an ethylene based complex at Yanbo. The product mix from this plant is planned to be low density polyethylene (200,000 tonnes/year), ethylene glycol (200,000 tonnes) and styrene (320,000 tonnes). Benzene for styrene production will come from an adjacent refinery.

SABIC-Dow Petrochemical hopes to construct a 400,000 tonnes/year operation with a product mix including low density polyethylene (200,000 tonnes) and ethylene glycol (300,000 tonnes). SABIC-Exxon Petrochemical is aimed at a 240,000 tonnes low density polyethelene plant.

Pinned

Metallurgical hopes are pinned on two projects, an iron and steel plant and an aluminium smelter. SABIC has signed an agreement with Korf-Stahl for a joint venture which could produce 800,000 tonnes/year of iron by the direct reduction process if the current evaluations prove satisfactory. Imported iron would be used to produce sponge iron which would be mixed with locally available scrap to produce steel billets. The export potential is currently being examined. A contract between the Department of Minerals and British Steel Corporation has been agreed to investigate the chances of using local iron ore deposits in Wadi Sawawin at some time in the future. A feasibility study for a 225,000 tonnes/year aluminium smelter does not seem yet to have attracted a foreign company, and SABIC's optimism about the viability of the project is based on studies indicating that a world shortage of aluminium in excess of 1m. tonnes a year will exist by 1985.

Chemical fertilisers have been discussed with various foreign companies including Britain's I.C.I. But the most advanced discussions have been with the Taiwan Fertiliser Company. Talks are officially said to be "at the negotiation stage." The proposed joint venture with the Taiwanese would be for an ammonia urea plant producing 1,500 tonnes a day of urea.

Saudi Arabia's hopes for industrialisation are tied to the broader question of relations between oil producing states and the industrialised West. Saudi Arabia is determined to participate in oil-related downstream activities and has a big political stake in pursuing plans for a petrochemical revolution. Both the Government and the joint venture oil companies are treading carefully as they reach the stage of doing the detailed costings and marketing studies.

It is no secret that the international oil and petrochemical industry is in a state of considerable alarm at the prospect of Saudi Arabia entering a market which may be saturated by the time projects come on stream. Saudi strategy is to give foreign companies a large stake in the programme, not just as managers and market advisers but as equity participants. Government planners know that if Western nations move on the defensive to protect their own petrochemical industries, future viability will depend on the backing and involvement of the international companies

Critics in the petrochemical industry point to the following marketing issues: the local market for Saudi products is tiny compared to investment and output, regional rivals like Iraq and Iran and other Gulf states are pursuing their own petrochemical developments, the world market is dominated by Western industrial nations which could ill afford the entry of a newcomer, particularly if Saudi Arabia manipulated profit margins by juggling with feedstock costs and invisible subsidies. The companies in the joint ventures want to make certain that their planned products would not be uncompetitive on the free market because of unacceptable levels of productivity and high cost maintenance.

The unspoken issue concerns the clout which Saudi Arabia could bring to bear to persuade critics of its petrochemical dreams that the Kingdom has a just case in its downstream ambitions and that future production would represent a proportion of world output small enough for western producers to live with. It is not Saudi style to brandish openly its means of leverage, but recent signs have been that the guardian of OPEC's main oil supplies would be willing to enlist the active support of OPEC members to enforce its aims. Discreet reminders from within the Kingdom of the existence of the oil deterrent have been echoed by Mr. Muhamed Ali Jaidah, Secretary-General of OPEC, who has warned that unless the balance of new petrochemical construction between the west and the developing world is redressed, "member countries would have no recourse but to adopt collective strategies." Saudi Arabia believes it has the deterrent power necessary to construct the dream.

Michael Tingay




Marketing in Saudi Arabia is a mixture of the straightforward and the apparently impossible. Once a particular brand dominates the market it becomes extremely difficult for another manufacturer to compete. This is in large part because of the weakness of advertising, an industry still in its infancy.

Marketing

FEW BUSINESSMEN would ever claim that working in Saudi Arabia is easy. There are the tiring and frustrating problems of the Kingdom's inadequate telecommunications system (the most conspicuous remaining bottleneck), the elusiveness of clients, the bureaucracy and delays involved in any dealings with the government, and the daunting scale of logistical operations in the contracting industry—to name just a few of the difficulties. Yet in many respects the market itself in Saudi Arabia is relatively straightforward. It is a country [illegible] consumers (and some private sector buyers of capital equipment) can be very unselective, where the simplicity of a product is all important and where advertising is in its infancy. The Kingdom is not a market where success in selling consumer goods depends on anything very sophisticated or complicated.

One of the most impressive features of the market—and a good starting point when describing its character—is the extraordinary brand consciousness of Saudis. To a much greater degree than happens in the West people refer to a product by the name of a popular brand, which results in milk powder being known as "Nido," sewing machines as "Singers" and, until recently, pens as "Parkers." This brand consciousness, which seems to have spilled over into the expatriate community, is accompanied by a similar acute awareness of the origin of products, possibly because the nationality of the brand is not disguised by local manufacturing operations as it often is in the West. Inevitably certain exporting countries, currently America and to a lesser extent Germany, acquire a reputation for quality, while others' goods are regarded as inferior. At one time in Saudi Arabia the word "Japani" was actually used to mean second rate.

It follows from this that one brand may dominate the Saudi market for a particular item, regardless of its price or quality. In fact, once established in Saudi Arabia (and in many other Arab countries for that matter) there is much more scope for a manufacturer sitting back on his laurels and remaining reasonably immune from competition than there would be in the West.

Weakness

One reason why an established brand is able to maintain its position in the market so easily is the weakness of advertising in Saudi Arabia, which makes it difficult to introduce new products to the consumers. Up to the last ten years the only advertising medium was the roadside placard, containing extremely uncomplicated material such as a picture of the product and the manufacturer's or agent's name. Very few of these placards, which are still the major form of advertising in Saudi Arabia, try to build any sort of image for their product, and none at all contain the humour or ingenuity of Western posters. Relatively recently the evolution of the Saudi Press has provided another medium, albeit not a very effective one. But Saudi television, which is the only medium which salesmen feel might be really effective, remains strictly non-commercial.

The maintenance of a favoured brand's dominant position in the Saudi market is further helped by the sheer ignorance or lack of expertise of the consumers. Throughout the Arabian Peninsula marketing men of the big merchant groups find that a major part of their job is telling a customer what he or she should expect from a product, and what other qualities—such as the local service facilities and the guarantee—make one product a better buy than another. With washing machines, for instance, a customer may need to be told that she should compare the loads of two makes, and enquire how many programmes the different models run and at what speeds their driers operate.

The general ignorance of customers stems partly from the fact that people in the Arabian Peninsula do not go window shopping—which has a vicious circle effect in encouraging extremely poor window displays, which in turn provides a further disincentive for window shopping. Also, because of the huge affluence of some sections of the population, people may be much more careless about buying and, compared with the European buyer, know much less about why they want or need a particular product. With their lack of definite buying motives Arabian consumers are often described by salesmen as being like a certain type of American consumer—with the important difference that the Arabian buyer has not been encouraged to make an unnecessary purchase by advertising.

This rather blind indiscriminate buying pattern shows up also in a lack of responsiveness to price changes—a feature of the market which is of some concern to the Ministry of Commerce because of its inflationary effects. Rather than change brands or switch from one commodity to another when the first item is in short supply and much more expensive, consumers will stick rigidly with their first choice regardless of price. A year or so ago this happened with Mercedes trucks—the Mercedes 2624 and 1924 being the trucks driven by every independent truck driver/owner in the Kingdom. (Interestingly it is the modern fleet owner or the foreign construction company using its own trucks that has begun buying trucks other than Mercedes in the past few years.) It even seems that buyers are more attracted to items that are in short supply, possibly because the shortage looks like an additional popular endorsement of a favoured model or brand. Then rather than wait for the shortage to ease and new stocks to become available, buyers will try to bring influence to bear on the distributor in order to get to the top of the waiting list.

Predictably, in a market where reputation — spread by word of mouth and buying example—is everything, the two most important factors in a company establishing its brand name are the simplicity of the product and the service back-up. Generally the Arabian buyers of consumer durable goods are bad at using machines and are not inclined to read instructions. Distributors of such goods as washing machines and dryers often find that the goods they have sold are returned to their showrooms broken a day or two after delivery. Many distributors now send a mechanic to demonstrate the machine in the buyer's home, and because this involves personal contact rather than the impersonal reading of an instructions manual the lessons are more likely to be effective. The merchants point out that there is generally in Arab society a preference for asking rather than reading, and this applies as much with notices giving directions in buildings or on roads (which may often be ignored however prominently they are displayed) as it does with technical hand books. This trait in the Arab character is probably a major reason why existing advertising media in Saudi Arabia are so ineffective.

As part and parcel of their non-mechanical mindedness, few consumers are prepared to follow a proper maintenance schedule for their cars and household appliances—and the same can be said in many cases with lifts and central air-conditioning systems in big buildings. Generally the public does not believe in making repairs and has become very throw-away minded. Given the harsh environment of the region, the lack of maintenance means that products have very much shorter lives in the Arabian Peninsula than they do in Europe and America. An American car which would last five or six years in the United States is unlikely to last for more than two or three years in the coastal areas of the Eastern Province (or in the lower Gulf) and only a year longer in Riyadh, where there is not the humidity.

Service

Because of these characteristics it is vital that distributors develop a good service operation—notwithstanding the comments in the last paragraph on throw away mindedness. Traditionally service in the Arabian Peninsula has been bad and expensive, and so those companies which have taken the trouble to develop good service operations have won big market shares for themselves—prime examples being E. A. Juffali and Brothers, the Saudi agents for Mercedes, and Yusuf Ahmed Alghanim and Sons, the Kuwaiti agents for most of the General Motors range.

What has deterred many distributors from providing good service facilities has been that there is no profit (or very little profit) in the service operation itself and that the capital investment required is high. The size of the investment is particularly daunting for a new agent who is not sure whether the product he is taking on will sell well enough to justify the outlay. Many agents have fallen into the trap of persuading themselves that they should start with small service facilities and then expand the scope and quality of the operation if and when sales begin to grow. This inevitably leads to the early buyers of the product getting a bad deal and giving the product a bad reputation.

In most cases foreign operations themselves are reluctant to invest in service facilities in the Kingdom, but a classic example of the benefits which have gone to some of the exceptions is provided by Komatsu, the Japanese manufacturer of construction equipment. When the company found that its agent was reluctant to invest in adequate service, it set up its own operation, and from being virtually unknown in Saudi Arabia several years ago it now ranks as the number two equipment supplier after Caterpillar.

Michael Field

Saudi Arabia's electricity generating capacity is constantly in danger of being overloaded. But the network is being expanded as fast as possible, and the electricity generating companies have come under close scrutiny by the Ministry of Industry and Electricity.

Electricity

FACED WITH a demand for electricity that continues to spiral as new development projects come into operation and living standards continue to climb, Saudi power generating companies have been striving manfully to keep pace. At the same time the Saudi Government has been taking an increasingly active part, chiefly in the electrification of rural areas, but also in the supervision of the companies. In the course of the year Minister of Industry and Electricity, Dr. Ghazi Algosaibi, has shown himself to be a hard taskmaster, both to local companies and to foreign contractors.

Six major electricity companies generate power under licence to the main centres of population in Jeddah, Riyadh, Dammam - Dhahran - Al-Khobar, Mecca-Taif and Al-Ahsa. Power cuts are fairly rare, but the gap between capacity and overload, particularly in Riyadh and the Western Province, is uncomfortably narrow, and the companes are anxiously increasing capacity. In this area, the interest-free credit provided by the Saudi Industrial Development Fund has been crucial and the six remain by far its largest beneficiaries. From the formation of the fund in 1974 to mid-1976, fund disbursements to the major companies exceeded SR1bn.

In Jeddah the Saudi National Electricity Company (SNEC), of which Sheikh Ali Juffali is chairman, is installing seven new gas turbines with a total effective output of about 350 MW. The General Electric Company of the U.S. is working against a May 31 deadline to complete the first of the units in the $100m. contract. Something of the urgency of the project is indicated in the $2,000 a day penalty that General Electric will suffer if it fails to meet the deadline. The other six turbines are to be completed by the end of January next year.

SNEC controls the whole grid through Jeddah. It has two power stations working at peak load and also receives electricity from the Jeddah desalination plant. The seven turbines are being installed at a third station, where General Electric has already constructed four similar units. These turbines added about 200 MW to the SNEC 110-kV system and came on stream early last year. Even so SNEC says it has orders for all the electricity the new plant will produce.

Up to the middle of last year the company had received nearly SR900m. in loans from the Saudi Industrial Development Fund. It estimated then that peak demand could rise by 1980-81 to 950 MW, for which a further SR1bn. would be required. For the Juffalis family times have certainly changed, for when the Juffalis company opened the Kingdom's first public power generating station in Taif in 1950, it boasted a mere 125 subscribers and had to keep the street lights on during the day to keep the generators running.

Integrated

In the Eastern Province, the present networks that supply the vast industrial consumers in the area will ge integrated into a system with 2,500 MW capacity. The Government has designated Aramco to manage the Saudi Consolidated Electricity Company (SCECO) which will combine the 40 or more private electricity companies operating east of Riyadh. The first phase of the integration project was completed last autumn, with the erection of 500 transmission towers along a 230-kV line which will be the "backbone" of the SCECO system. The first phase also included 92 miles of transmission lines and the installation of four substations.

Ultimately the backbone will stretch from Uthmaniyah, south of Abqaiq, to Safaniya and will be capable of transmitting bulk power of up to 600 kW to the load centres, populated areas or industrial complexes (without the risks involved in siting individual power stations close to consumers). Natural gas will be the main fuel supply and power generating plants are to be located at Uthmaniya, Shedgum, Ghazlan and Berri so that a mutual energy exchange is possible with centres for Natural Gas Liquids in these places. From sub-stations sited on the backbone at power stations and large centres, transmission lines will branch out to provide power to lesser consumers, refineries, residential areas and factories and, it is

CONTINUED ON NEXT PAGE

Water supply has always been a problem in Saudi Arabia. The traditional solution lay in emigration—now the tide has turned, and the influx of population is adding to the continuous need for agricultural water.

Water supplies

SAUDIA ARABIA was blessed earlier this year with the largest lake in the Arabian Peninsula. The six year old Jizzan Dam bottled up, albeit for a few weeks, more than 50m. cubic metres of water—theoretically enough to water Jeddah for a year. Without the dam this lake would have been a huge flow of water surging to the coast in an orgy of destruction of farms, roads, valuable soils, machines, animals and anybody unfortunate enough to be in the way.

The harnessing of half the million cubic metres of floodwater from two nights of torrential rain high in the Assir Mountains marks the greatest success so far of Saudi Arabia's ten year old dam building policy. But the ephemeral Lake Jizzan perfectly illustrates the conundrum of the country's hydrological difficulties. It is not simply that this vast arid land receives only 30 to 100mm of rainfall a year but that water is available at the wrong time in the wrong places in the wrong concentrations.

Responding, apparently after several years of uncertainty, to these harsh geographical realities the government has clarified its policy and priorities for optimum use of limited water supplies. The issues are simple: deciding on the best distribution and balance between immediate human consumption and use for food production; between urban supplies and agricultural water; between fresh water from acquifers underground and desalination plants by the sea. Above all the priority is to minimise wastage.

Historically Saudi Arabia has exported the people for whom the desert has been unable to provide. Since the time of the prophet Mohammed, Arabs have left the Peninsula at different periods in waves spreading across what is now the Arab world. For the first time the desert's limited water resources are having to cope with the return tide of hundreds of thousands of foreigners who have been drawn in by the economic expansion which followed the oil boom.

Only in the north and east and the better watered south west is the government able to give priority in water supply to agriculture. In Riyadh and the western coastal region it has been obliged to channel most effort into providing water for city supplies.

An official said: "Drinking water has to take priority over water for farming. Our towns are growing so fast that we don't even have enough time to take full stock of the situation. You can't freeze reality."

Expansion

In this case reality is an accelerating urban expansion from two directions at a rate probably never witnessed before. First, there is an internal movement as bedouin, peasants and farmers abandon their rural life and traditional habits (which include a low daily consumption of water by individuals) in favour of high wage jobs in the cities. It is not just a question of the attraction of the new urban way of life—so difficult is it to make traditional farming profitable enough to keep up with the rocketing cost of living that Saudis have had to turn to government and service sector jobs to maintain their living standards. Aggravating the trend is the sad fact that agricultural land in the vicinity of towns is being swallowed up in the construction boom or is being set quietly aside by those with an eye to land speculation.

In addition there is external momentum from 1½ to 2m. foreigners (from casual Yemeni workers to American executives) who have arrived in Saudi Arabia in recent years. Jeddah is now 50 times larger than it was ten years ago. People in Riyadh and Jeddah consume 5 to 10 times as much water per head as people in the countryside.

The physical dimensions of urban expansion also hold special problems for water distribution. One Saudi official pointed out that in Riyadh the high cost of land near the city centre has produced a series of satellite suburbs many miles outside the old city limits and that water in the pipes, as these new areas are connected to the central supply, could be equivalent in volume to a medium-sized acquifer. He said, "With our free economy people build where they can afford to. To supply their homes with water we have to lay hundreds of miles of pipes through undeveloped land to reach the suburbs."

Despite the voracious demands of Saudi Arabia's town dwellers, a large proportion of water in the hydrological cycle goes to agriculture —an estimated 70 per cent. this year A Saudi water expert explained, "People are greedy enough but their water wastage is nothing compared to that of plants watered by traditional irrigation. We can lose up to 30 per cent. of water supplied through evaporation from the fields."

An important distinction between agricultural and urban demand is that the former, dictated by geography, has long been close to the maximum while the latter, the product of recent history, will continue to accelerate. With agricultural water supply, the target is to optimise use of existing resources and cut down wastage.

It is here that Saudi capital can introduce modern knowhow, technology and planning. One of a number of studies to quantify more exactly existing resources is currently being done by the British groundwater development consultants Hunting MacDonald's. (West German and Canadian consultants are working in the West while the British firm is responsible for resources in the central and eastern areas.)

Their task is to measure accurately the huge Umm er Radhuma acquifer system, which stores a vast volume of fossil water (never younger than 10,000 years stretching from the Iraqi border in the north under most of the eastern part of the country down to the Empty Quarter. Overall, their's is an agricultural brief (they are also looking at soil resources) but the urgency of the Kingdom's urban supply problem is such that they are better known for work on the Wasia project, a costly scheme 100 kilometres east of Riyadh to pipe 200,000 cubic metres of water daily to the capital by 1980. (Last year Riyadh was using 150,000 cm a a day from smaller acquifers north and west of Riyadh.)

While foreign consultants have been assessing resources in relation to future needs, the Government has continued with its programme of creating a modern hydrological infrastructure. In the past ten years 45 small dams have been completed and 13 are currently under construction. With a 10bn. riyal budget on water development over the next four years (excluding desalination projects which are budgeted separately) the Government intends to build ten new dams a year.

The purpose of these small dams is primarily to hold back periodic flashfloods which can be catastrophically destructive. Additionally, they store water for limited periods, prevent loss through the wadi channels and recharge shallow wells through ground seepage. Last month's appearance of the Jizzan lake (filling to three-quarters of the dam's capacity) enabled farmers to irrigate their land five and even six times. In the past their year round work on primitive canals rarely gave them more than two chances to harness a tiny fraction of the wadi water. The nearby Besh Wadi dam has more than twice the capacity of Jizzan and the programme could eventually facilitate the introduction of completely mechanised farming. The results have been summed up with the observation by an official that "before the dam the risk to farmers' livelihoods was 100 per cent.—now the certainty of getting water is 90 per cent."

Another dam at Abha has provided guaranteed drinking water (a storage and purification plant is installed) for the first time to members of the local tribes. One disadvantage of the dams is that silt, a proportion of which was formerly deposited on the wadi (dry river) bed, now remains behind when the temporary lakes evaporate.

Of all projects made possible by the enormous funds available, the desalination programme has received perhaps the greatest publicity. Indeed, the independent budget for the Water Desalination organisation is SR2.2bn. which is almost as large as the total spending of the Ministry of Agriculture and Water Resources last year.

One popular misconception which has arisen is the notion that one day desalination could provide all the kingdom's water needs. This is not so. Desalination is complementary to rainfall and groundwater resources. (One consequence of fanciful reporting was last year's dismissal of Prince Mohamed al Faisal from his job overseeing water development. His expressions of Saudi willingness to contribute to international research into the possible use of icebergs for water supply were rapidly metamorphosed in the world's Press into firm plans to tow icebergs to Jeddah.)

Desalination plants currently produce rather less than 70,000 cubic metres per day (more than 18m. gallons). This is intended to rise to 114,000 cmpd (30m. gallons) by the end of this year and more than 400,000 empd (105m. gallons) by 1981. The main plants are at Jeddah (where the 38,000 cmpd second stage expansion was completed in November last year), Al Khobar 28,000 cmpd (7.5m. gallons) rising to 190,000 cmpd after three years and the new ports of Yanbo (19,000 cmpd by 1980) and Jubail (114,000 cmpd by 1980).

To put these figures into perspective it is thought that the daily requirements of Riyadh will reach 600,000 cmpd by 1981 with 400,000 cmpd for Jeddah. By 1980 the capital should be connected to Al Wasia and receiving 200,000 cmpd of piped aquifer water, as well as 360,000 cmpd from current existing sources.

Most city supplies come from aquifer and rainwater though Jeddah's natural sources are supplemented by desalinated water. Such supplies, which are not usuable for agriculture currently provides 5 per cent. of total urban supplies. Specialists say that desalination is unlikely to provide more than 20 per cent. of town water though in individual cases like Jeddah it will become the main source, supplemented by aquifer water.

It is Jeddah which provides a final example, quite dramatic as the Jizzan Dam, of the problems of unpredictable and inequitable distribution of natural water supplies. This winter's entire rainfall fell in two separate downpours in December (when 56mm fell in 24 hours) and February 23 and 24 when the city was brought virtually to a halt by 70mm of rain. All the petrodollars in the world could do nothing to avoid this disruption. Even if a billion riyal sewage system were installed to drain away such a diurnal deluge the sewers would be totally clogged by dust and dirt accumulating during the year.

M.T.

Electricity

CONTINUED FROM PREVIOUS PAGE

hoped, ultimately to Bahrain as soon as the projected causeway is built.

Elsewhere, the 1977 picture has been less rosy and Dr. Algosaibi has warned electricity companies that they are under scrutiny to improve their services and expand networks. He singled out the Medina Electricity Company as giving his ministry cause for concern, but pressures at Riyadh seem to have been more serious, with demand increasing by 35 per cent. a year. After repeated complaints from the public, the Council of Ministers dissolved the Board of the Riyadh Electricity Company in June. After investigation, Dr. Algosaibi said that the lines, generators and the whole network were in need of a drastic overhaul. The new Board now has a team of 23 British advisers recruited from the North-West Area Electricity Board for British Electricity International, an arrangement made under the Saudi-British Economic Co-operation agreement, which endeavours to bring the expertise of British State institutions to the assistance of Saudi Arabia. In December the reconstituted company signed consultancy and purchasing agreements radically to improve the capital's network.

The more active participation of the Saudi Government is elsewhere reflected in the activities of the General Electricity Organisation formed in 1976 to provide electricity to remote and isolated areas in the Kingdom and manage projects already undertaken by the Government. Its first enterprise, a modest SR20m. electrification scheme in Al-Quweiyah was opened in the autumn of 1977.

While Dr. Algosaibi has stated, echoing the late King Feisal, that "electricity will reach every house and every village in the Kingdom," the present rural electrification programme is concentrating on integrating certain small towns and their surrounding villages. This programme was delayed early in 1977 when contracts for the regions of the Asir, Jizzan, Baha and Al-Kharj were cancelled following charges that certain western and Japanese companies had made inflated bids. The contract for the Asir was subsequently given to Hyundai of Korea, at a considerably lower contract, and that for Al-Kharj to the Pakistani State electrical engineering concern. The organisation's head, Mahmoud Tayba, travelled to Pakistan early this year to commission the contract, where he said that he had no doubt that the $70m. project could be completed within 20 to 24 months, well within schedule.

This episode has now blown over and Dr. Algosaibi himself said that the cancellation had served its purpose, since there had been a noticeable drop in the levels of tenders received lately. Meanwhile the Baha project has been completed and similar schemes are planned for Najran, Qasim, Sudair, Wadi Fatima, Hail, Al-Ahsa and Namas. The SR300m. first phase of the Qasim project is being undertaken by the Canadian concern SNC Services and will bring electricity to some 300 villages in an area north-west of Riyadh. The total cost of the enterprise is expected to exceed SR700m.

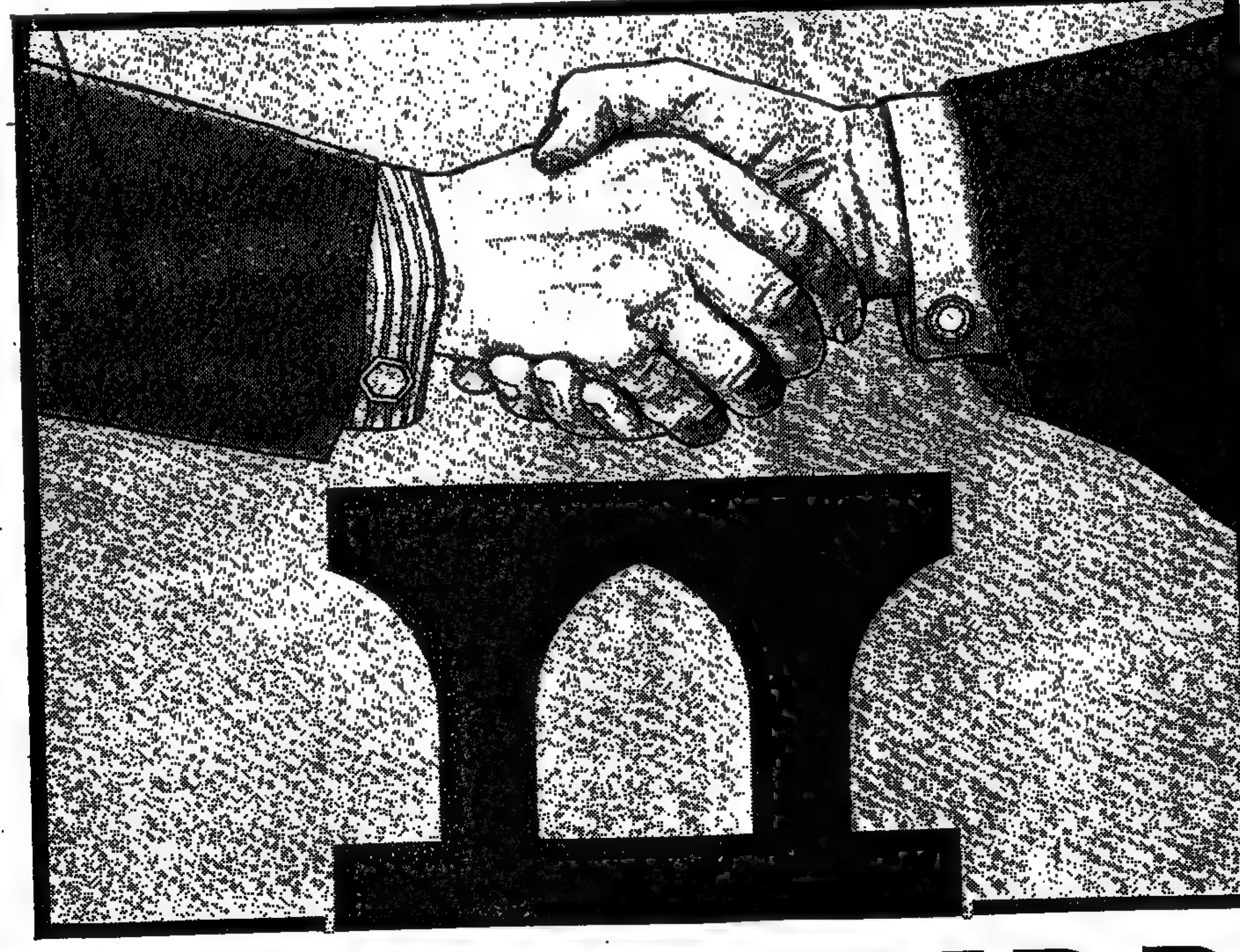
Short-term

Other short-term projects include the electrification of villages along the main pilgrimage routes and of 75 isolated settlements as well as a rural electrification programme for 72 small towns. This last is to be completed a year after the end of the plan period and its cost is estimated at SR250m.

The longer-term programme for the electrification of whole regions and their integration into a single-voltage national grid, which will be both more reliable and less wasteful of valuable labour than the present systems, will not be realised in the course of the second five-year development plan. But emphasis on the development of bulk supply from water desalination and natural gas makes the achievement of a national grid inevitable.

The first major desalination plant, commissioned in Jeddah in 1970, is now well into its second phase with a capacity of 130MW. By the end of this year that capacity will have increased by an additional 200MW, and after three years by a further 500MW. According to Essam Jamjoom of the General Desalination Authority, the total capability planned for the Western seaboard is 2,000 MW, while on the east coast plants from Al-Khafji in the north to Al-Aziziam south of Al-Khobar are to have a combined installed capacity of 3,000MW. As part of this programme, the Italian company GIE was awarded a $280m. contract in October for a 500MW project at the industrial complex at Jubail.

Jamie Buchan



JUBAIL

two major industrial
of Saudi Arabia's

The Kingdom of Saudi Arabia has an expendable source of wealth, and the day will undoubtedly come when that source is finally depleted.

In recognising this irrefutable fact, the Saudi Government has long been determined to ensure that the source of the nation's future wealth and prosperity for its citizens by converting its present wealth into a sound productive base.

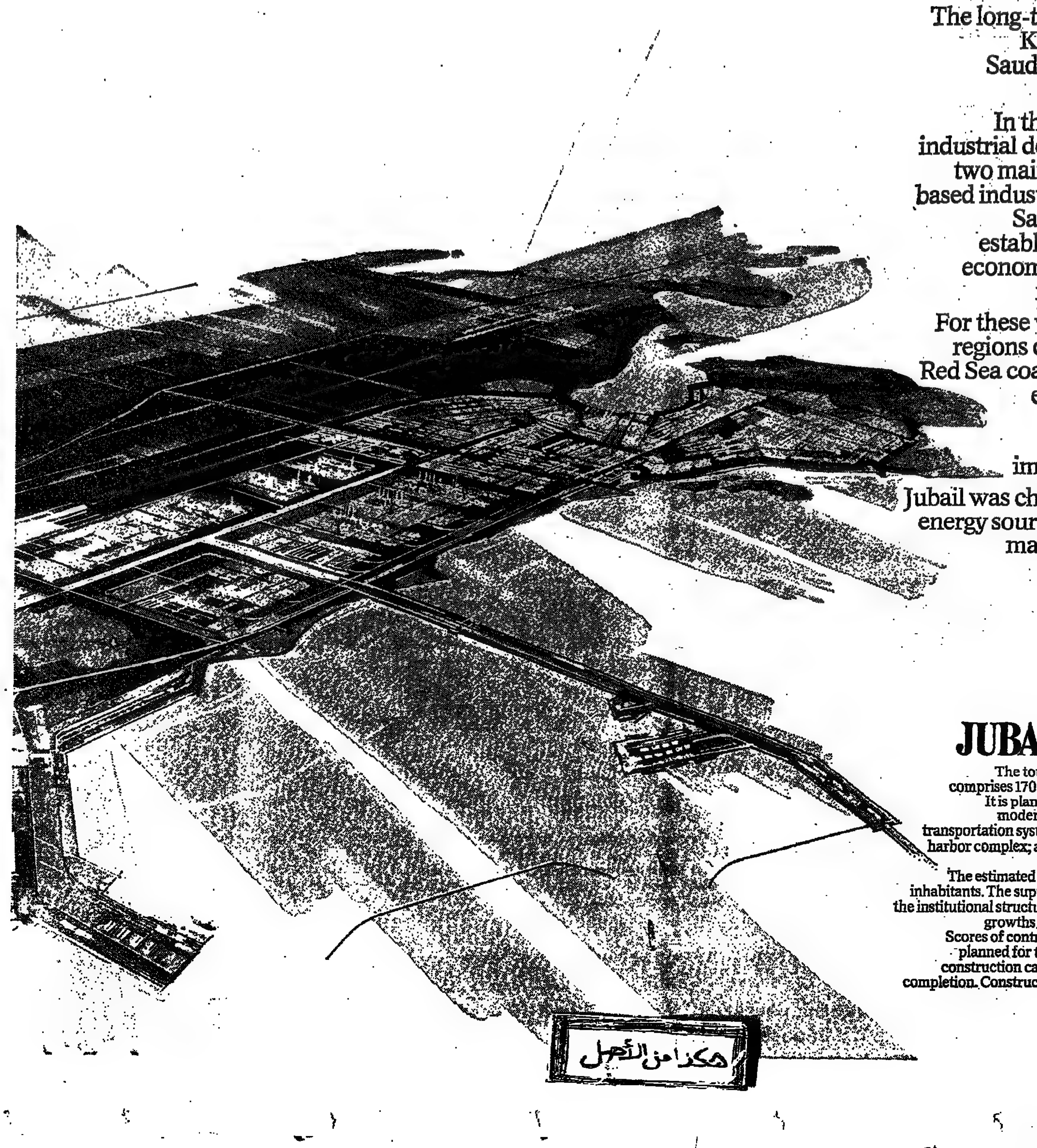
This, given the geography and infrastructure of the country, means a programme of rapid but carefully planned industrialisation.

The long-term objective is one of diversifying the Kingdom's industrial base, thus enabling Saudi Arabia to realise a greater measure of self-sufficiency.

In the short-term, however, efforts towards industrial development are being concentrated on two main areas: the setting up of hydrocarbon-based industries which can make maximum use of Saudi Arabia's natural resources, and the establishment of industries that are not only economically feasible but add to the country's national security and social prosperity.

For these very reasons, the two widely separated regions of Jubail on the Gulf and Yanbu on the Red Sea coast were chosen so as to strengthen the economic ties between the eastern and western ends of the Kingdom, and a Royal Commission was established to implement their industrial development.

Jubail was chosen mainly for its proximity to cheap energy sources, which could also supply basic raw materials to the petrochemical industries destined to be set up there.



JUBAIL

The total area for the Jubail project and adjacent community facilities comprises 170 Km² with an additional 730 Km² to allow for future expansion. It is planned that the Complex will include nine major industrial plants; modern power, water, and waste treatment systems; a comprehensive transportation system that incorporates an international airport and a major new harbor complex; a regional telecommunications system; an extensive manpower training center; and a complete new community.

The estimated support population for the town is expected to exceed 200,000 inhabitants. The support industry, the infrastructure facilities, the urban design and the institutional structure will provide the quality of life and the human and industrial growths aimed at with the inception of the industrial complex of Jubail. Scores of contracts have already been awarded and scores of others are being planned for the short and the long terms of development. Site preparations, construction camps, water supply systems, roads, ports are at various stages of completion. Construction has been under way at Jubail for the last two years and the beginnings of a town and its people are taking shape.

YANBU

projects at the heart future development

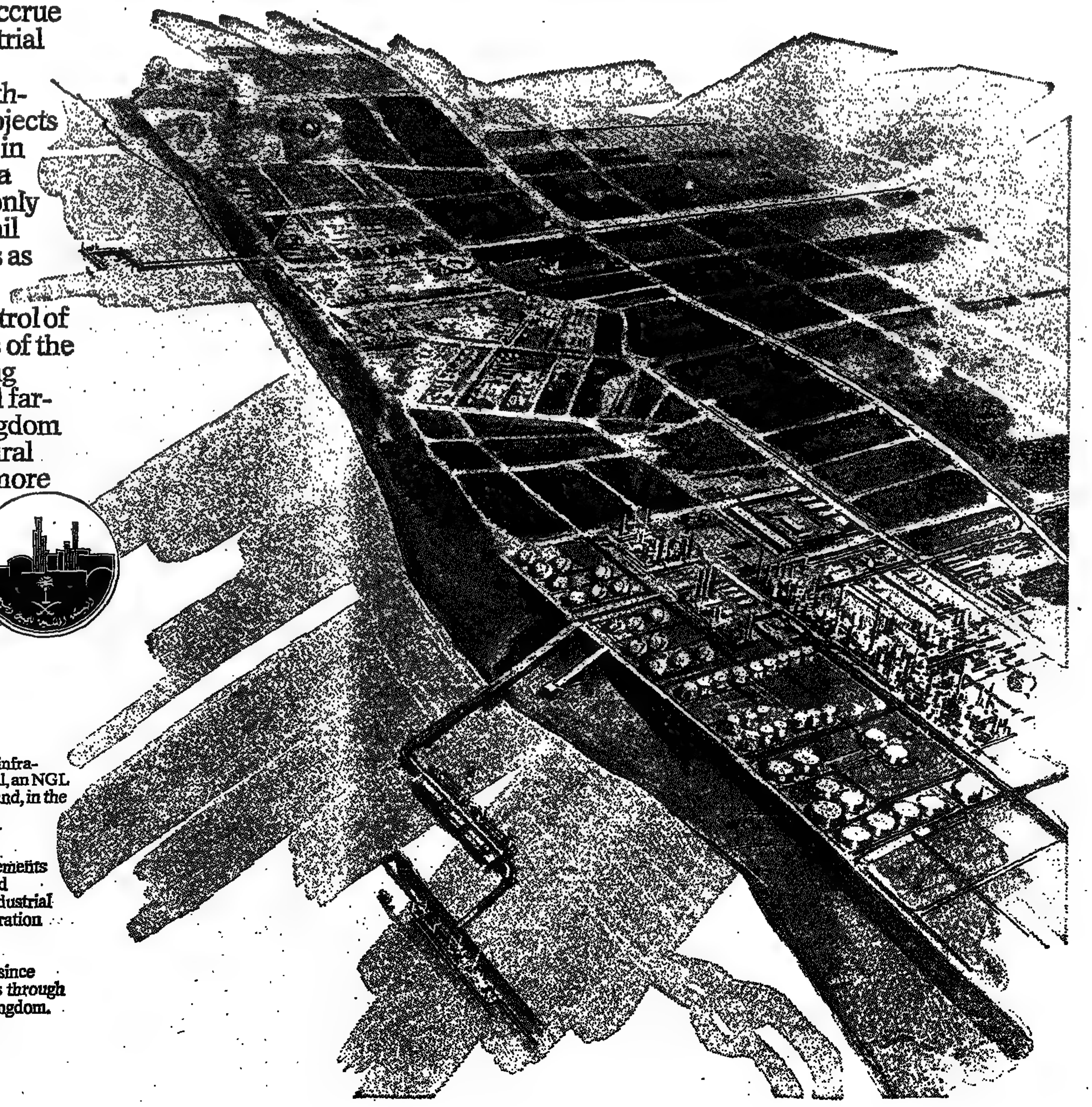
Yanbu, on the other hand, was selected for its excellent geographical location which makes it an ideal centre from which to export petrochemical products to Europe via the Suez Canal. In addition, oil and natural gas pipelines connecting the Kingdom's eastern and western regions would provide the energy necessary for running all basic and petrochemical industries scheduled for the future in Yanbu.

The choice of these two separate regions is in keeping with Saudi Arabia's overall development policy, which aims as far as possible at spreading the benefits of economic growth throughout all regions, to the ultimate benefit of the entire population.

Apart from the obvious advantages that will accrue from these two massive projects in pure industrial development terms, a great number of fringe benefits, both economic and social, will be forthcoming. For example, in both regions these projects will facilitate the training of tens of thousands in many fields and thus will create for the future a valuable core of highly skilled craftsmen, not only involved directly in the main industries at Jubail and Yanbu but also in such ancillary industries as maintenance and supply.

Both the projects, under the guidance and control of the Royal Commission, are powerful examples of the foresight and responsibility of His Majesty King Khaled and his ministers in taking positive and far-reaching steps to see that the future of the Kingdom and its peoples relies less on irreplaceable natural resources and external economic factors and more on the establishment of a firm and expanding industrial base within the nation itself.

The Royal Commission for Jubail & Yanbu



YANBU

The Yanbu Project covers an area of approximately 190 Km² and will provide infrastructure facilities for a wide range of industries, including a crude oil terminal, an NGL fractionation plant, refineries, a petrochemical complex, support industries and, in the long term, ore and mineral based industries.

Support facilities to be provided by the Royal Commission will include a new community for 150,000 inhabitants to house the population generated by the industrial development, a major port complex to meet the specialized requirements of the hydrocarbon and future industries, a new airport and an extensive road network, as well as all the necessary utility systems that will serve both the industrial complex and the community development: integrated power and water generation and distribution systems, waste treatment and disposal system and telecommunications.

Major construction support projects have been under way on the Yanbu site since March 1977, the most notable achievement being the temporary port facilities through which the crude and NGL pipelines are currently being imported into the Kingdom.

The object of the massive Saudi Arabian road building programme is to spread industrial and agricultural development to every region of the country - and so far, the aim is well on the way to being achieved.

Roads

SINCE THE beginning of the first Five Year Development Plan, the road system in Saudi Arabia has doubled in size.

Before 1934 only 237 kilometres of paved road had been laid, mostly by Aramco in the Eastern Province. By 1970 and the beginning of the first plan period, the paved-road network had increased to 8,434 km., and although construction during the first plan fell somewhat short of the 5,000 km. target, the Ministry of Communications in Riyadh now estimates the total length of paved roads at over 16,000 km., in addition to a further 13,000 of earth-surface rural feeder roads laid by the Ministry's Roads Department.

The goal of the programme, according to the Ministry, is nothing less than to integrate the whole of this vast country in order to spread industrial and agricultural development to every region. Social development and the present policy of administrative decentralisation cannot proceed without a complete road system, it is argued. Questions of security also weigh heavily with the construction of military cantonments in the remote marches, at Hafr Al-Baton and Tabuk in the north and Khamis Mushait in the south-west.

Important

Roads constructed so far have only begun to bite into the problem, for, apart from the main Jeddah-Riyadh-Dammam axis road, the most important highways built to date are the Tapline road, running along the Saudi-Iraq border, a road south from the Jordanian border to Jeddah via Tabuk, the Medina-Riyadh link and a road south from the capital skirting the Empty Quarter.

Road links between the central axis and Saudi Arabia's northern neighbours and southern province are still poor, and the small cities on the lip of Nafud desert in the northern hinterland are all but isolated.

The present highway from Jeddah to Riyadh would disgrace a crow, since it was built originally to take in the relatively populous areas north-west of Riyadh. A more direct route to the south has been under study since 1966 and a two-lane road from the escarpment west of Riyadh to Halaban, half-way to Mecca, has been designed by the British consultants BMMK and is expected to be completed very shortly. Construction of the next section to Zalim on the old road has been held up because a short desert section is still under design.

Meanwhile a Mecca-Halaban dual carriageway is being studied by a Saudi-Danish partnership, ZACO, with provisional estimates for its design and construction exceeding SR2bn.

All these roads, along with the Jeddah-Mecca dual carriageway presently under construction, are being subsumed under a project for a grand dual carriageway from coast to coast, for which Cabinet approval has already been given. Ove-Arup is handling the design of the Halaban-Hofuf section and Saudconsult an extension to Abqaiq.

To the south, construction is progressing on two main roads, along the coast to Jizan and along a parallel escarpment into the Asir, which is to be developed into a domestic tourist area.

The extension of these roads into the Yemen Arab Republic, to Hodeida and Saada, is being studied by the American consultants Wilson Morrow, and they were tabled for discussion at the recent session of the Saudi-Yemeni Joint Commission. The link between Mecca and the coast road at Al-Lith will be completed by the Florentine company Tirenia Scavi by September at a total cost of SR230m.

In the north, a road will ultimately run from Rafha near the Iraqi border to Hail and on to Al-Vila and Al-Wejh on the Red Sea coast. By this road traffic from the Central Province to Kuwait and the north-east will be spared the tiresome detour through Riyadh and Dammam. BMMK is working on the final plans for the Hail-Al-Ula section, which will ultimately form part of a second east-west road, meeting the Gulf coast at Jubail.

Linked

North of the Nafud the town of Al-Jouf is to be linked with the Jordanian border by the Wadi Sirhan and with the Medina-Tabuk main road, where construction is well advanced except in a difficult desert stretch in the centre. The Tapline road will also be expanded to improve the connection between the Eastern Province with Jordan. All but one section of a new Jeddah-Yanbu-Aqaba coastal road are under construction.

Earth-surface road building has so far been concentrated around the small centres north-west of the capital, in the Dammam — Al-Khobar region and around the Holy Cities. In fact rural roads for the use of pilgrims accounted for the largest single item in the Ministry's list of rural roads opened before mid-1977.

The second plan calls for 13,000 km of main roads to be constructed in the five-year period to mid-1980 and for 10,250 km of rural roads. As in the first plan, actual construction is running short of target as only 1,900 km of paved roads were laid in the 1976-77 financial year out of a proposed total of 3,000 km. With imported supplies now moving smoothly since the easing of port congestion, 1977-78 should reach its target of 2,500 km, although a shortfall of about 1,500 km is expected for the whole plan period.

Supplies no longer represent a great problem to contractors, with construction material imports for 1977 almost double those of the previous year and cement in good supply. Asphalt is provided by the refinery at Ras Tanura (at a mere $20 a ton directly), and most contractors have their own on-site crushers for making aggregate from abundant local sources.

Preferential

Saudi contractors receive certain preferential terms in tendering for contracts and have been well represented since Binladen built King Abdul Aziz a road from Jeddah to the summer residence in Taif. In areas where greater experience is required, competition between foreign companies is intense. Italian contractors, faced with a complete shut off at home, have established a strong presence and account for about one-third of all roads built. But high overheads now drive European tenders up to 30 per cent. higher than bids from Korean or Taiwanese firms, and many new European arrivals are obliged to bid suicidally low merely to establish a foothold.

The terrain is difficult, not only in the mountains but also on the flatlands where roads are vulnerable to flash floods and blown sand. In the early summer, when the big winds blow out of the Empty Quarter, a road can be buried in hours, and some of the methods for stabilising sand are ingenious. On the Halaban road, BMMK aimed to create aerodynamic shapes over which sand particles will blow without settling. A series of bitumenised rubber strips are laid parallel to the road, providing a flexible "net" to contain the dunes. Even so extreme care must be taken, since a single rock can form the nucleus of a dune and crash barriers and sign-posts must be sited where they will not cause a build-up of sand.

The periodic rains are even more destructive. A February storm caused more than SR2m. of damage to the Mecca-Al-Lith road and washed away a section of another road in the Wadi Sirhan. Embankments, dykes and culverts are the answer, although they look incongruous in desert country.

They also contribute to the expense of road building in Saudi Arabia. The original second plan figures suggested a cost per kilometre of about SR750,000, but this is now thought to be insufficient except for the most rudimentary level road. For mountain work, a cost per kilometre of more than double that has been accepted by the Ministry.

The actual value for money looks even smaller, considering the vast distances to be crossed and the generally small populations to be linked. Although vehicle imports rose to 4m. in 1977 against 3.6m. in 1976, few Saudis take their cars on long-distance journeys, preferring to take advantage of subsidised domestic air travel. Except during the pilgrimage traffic congestion is confined to the inner and outer cities, and in Jeddah this is reaching severe proportions.

On the whole long-distance road haulage from Europe to Saudi Arabia seems to be on the way out, the hauliers having finally succumbed to the formidable physical and bureaucratic hazards of the overland run. But all freight out of the ports is carried by road and this traffic will not abate for some time.

A severe shortage of trucks operating out of Dammam and Jeddah has now eased. The market for heavy goods vehicles is now mostly absorbing excess stocks ordered during the port congestion, but domestic output, from the Juffali-Mercedes National Automobile Industries assembly plant, is increasing steadily despite high plant overheads and is expected to exceed 6,000 HGVs a year by 1979.

Long-term plans for new railroads do not yet pose a serious threat to road freight. The sole railway in operation the 565 km. line from Damman to Riyadh, carries one freigh train a day.

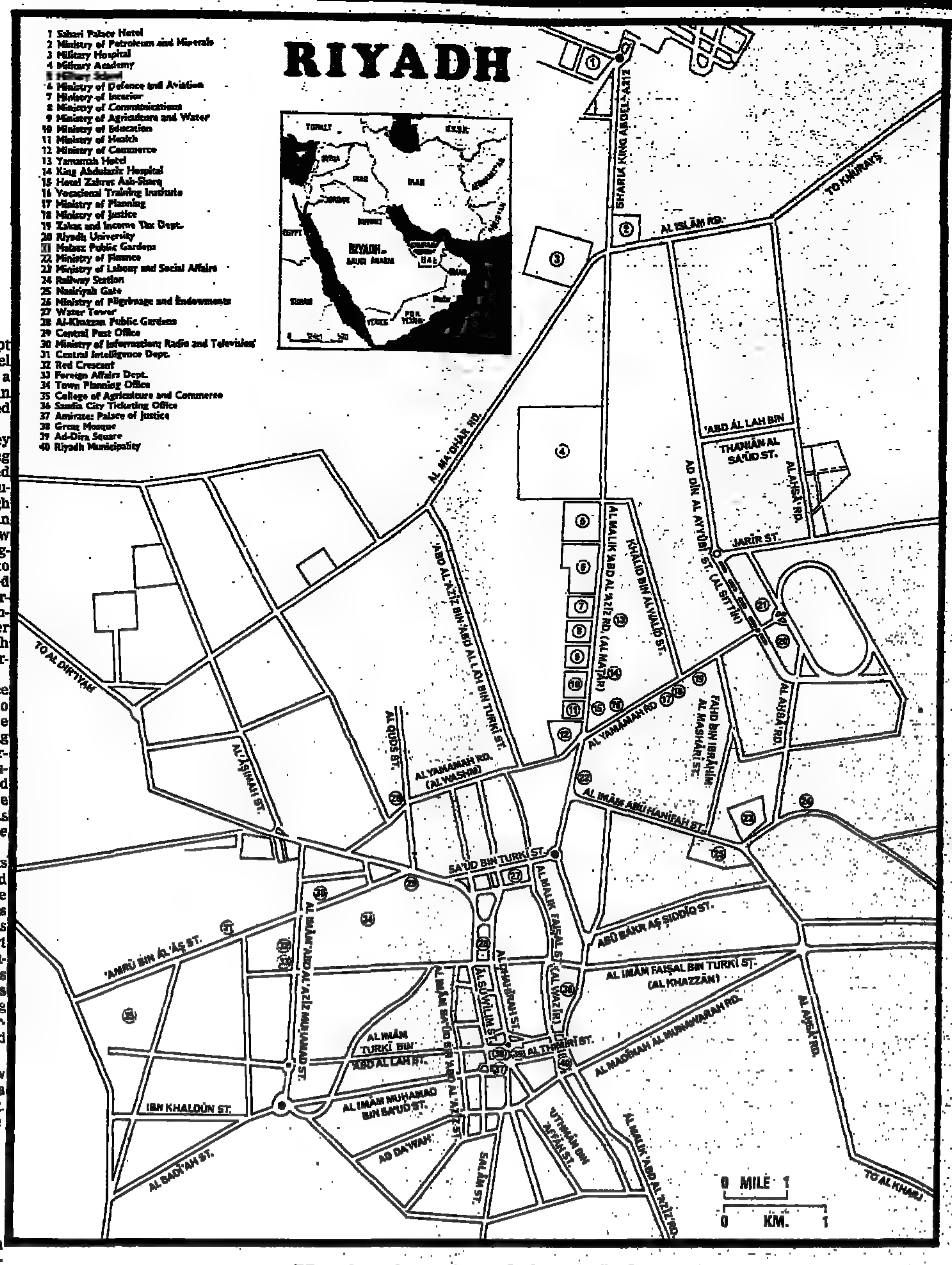
Extension

Distant prospects are an extension of the present Riyadh-Dammam line and a Jeddah-Mecca commuter railway. The Saudi Railway Authority, based in Dammam, has stated that a committee in Riyadh will soon commission feasibility studies for these.

Meanwhile representatives of the transport Ministries of Jordan, Syria and Saudi Arabia met last month in Riyadh to discuss the invitation of international proposals to reconstruct the 1,300 km. Hejaz Railway, built by the Porte in the early 1900s as a pilgrim line from Damascus to Medina. Reconstruction and reactivation of the whole line would cost upwards of $500m.

A similar plan was mooted in the 1960s and studies prepared, but the project was shelved with the outbreak of the June, 1967 war. In its present form the project looks like a very distant possibility, and very much dependent on an overall settlement with Israel.

Jamie Buchan



Housing the poor and the needy has become extremely important in Saudi Arabia, a country where accommodation is expensive anyway. But material supply has improved and home builders have been given top priority.

Housing

THE SECOND Plan's stated intention of "providing every family in the Kingdom with decent housing" is meeting with mixed success. Because of a slow start by the Ministry of Public Works and Housing, the programme for housing poor and middle-income Saudis has had to be compressed into a short period.

Port capacity, formerly a constraint, is now adequate. According to figures released by the General Ports Administration, construction-related imports almost doubled in 1977, increasing from 5.92m. freight tons in 1976 to 11.71m. tons. Cement, at 7.2m. tons, was the largest single commodity discharged last year at Saudi Arabia's ports.

Pressures on labour and supply persist; however, partly because both the private and public sectors must compete with an ambitious military building programme. At the new military cantonment at Hafr Al-Batou alone, 6,500 houses are planned, though the Defence Ministry has shown itself wary of aggravating the problem. All the estimated 1m. tons of materials for the cantonment will pass through a specially built port at Ras Al-Mishab on the Gulf, while offices will be opened abroad for the recruitment of labour. For the State housing programme, two ports at Qudayma north of Jeddah and Ras Al-Ghar north of Dammam were commissioned by the Ministry of Public Works and Housing exclusively to supply housing projects, and should be completed by the end of the Saudi financial year in June.

With accommodation now costing up to half as much again of an expatriate's salary, it is invariably borne by his employer, which has contributed greatly to the soaring prices of tenders from European and U.S. companies. The problem now is expense, not shortage, for with a current surplus of middle level housing companies can pick and choose. Not so fixed-income tenants, Government servants or Muslim expatriates, who are faced with rents of up to ten times the pre-1973 rate.

Property speculation is as livly as ever, with new blood pouring in to join the old-established entrepreneurs in this lucrative area. As in many other matters, the Saudi attitude is: if you cannot beat it, restrict it to Saudi citizens. The recent royal decree allowing Gulf nationals to own property in the Kingdom expressly stated that the land would be re-purchased at cost if it was not developed within three years.

But housing the poor in Saudi Arabia is, the most pressing problem for the Saudi Government. Since before 1973, the drift from the country to the cities has led to overcrowding and the proliferation of sub-standard dwellings. Shanty towns are almost as common a sight as in Iran. The wholesale decay of old quarters through the draining of their resources by unimaginative planning has compounded the problem.

One of the two new ministries created in October, 1975, the Ministry of Housing and Public Works, has needed time to find its feet, and the public sector contribution of 59,000 housing units has had to be squashed into the last two years of the plan period. The backbone of the Ministry's contribution are three identical projects for 2,000 units each in Riyadh, Jeddah and Dammam, 5,500 in each of the Holy Cities and 750 in Al-Khafji. Contracts for further projects in Riyadh, Jeddah, Al-Khobar, Qatif and Al-Khafji are expected to be signed by the end of this financial year.

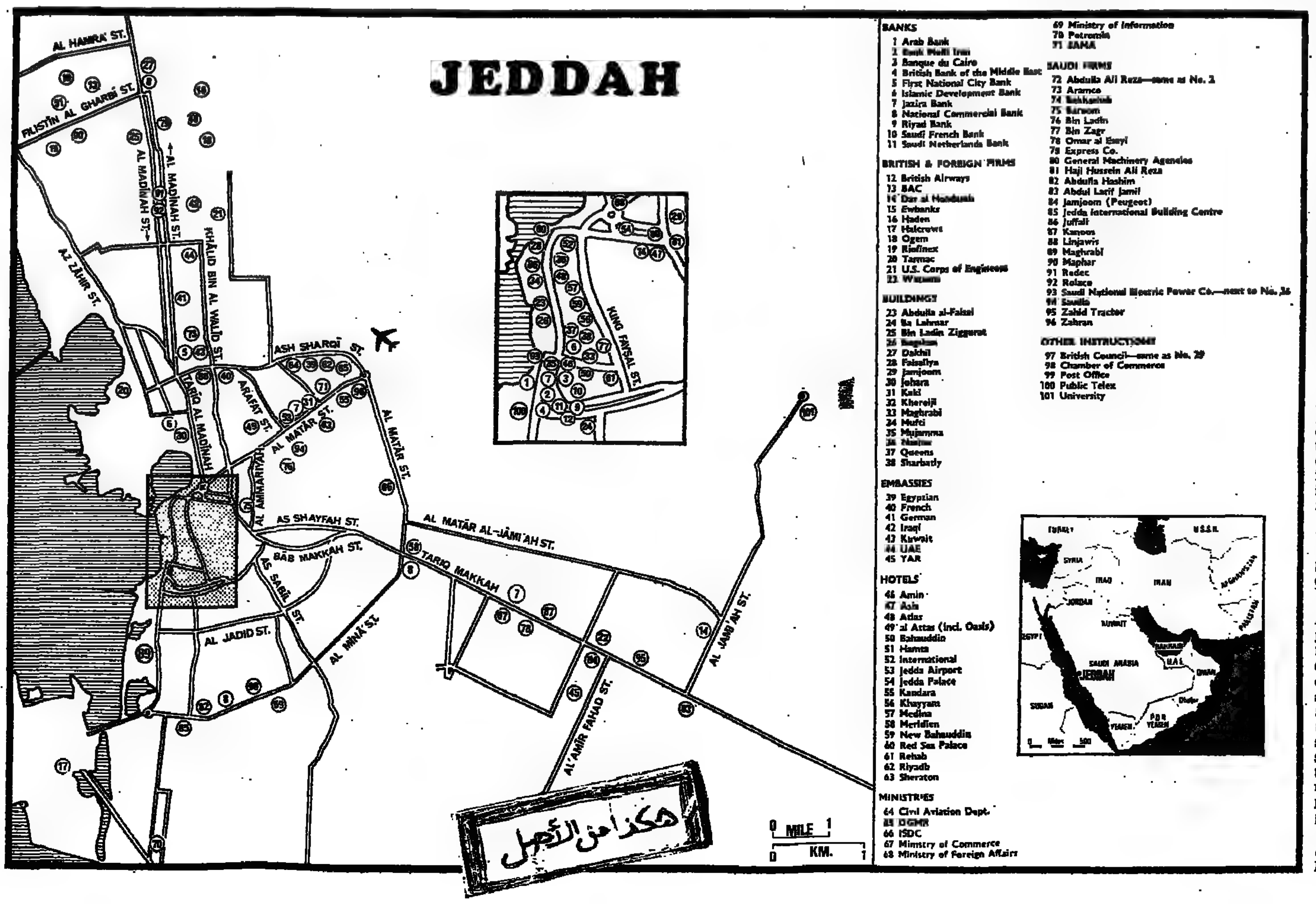
Ambitious as the projects are, the Ministry realises that the burden of the housing policy must be borne by the private sector. In the next two years the activities of the Real Estate Development Fund, which resumed extending loans in February after a ten-month "breathing space," will be crucial.

Originally empowered to finance up to 70 per cent. of private houses and 50 per cent. of those built for commercial purposes, the fund started operations in late 1975. Between that time and its closure, the fund committed no less than SR20bn. and made almost 80,000 loans for private housing. In addition, loans for commercial buildings exceeded SR1bn.

After the breathing space, Finance Minister Sheikh Muhammad Aba Al-Khail, whose Ministry has overall responsibility for the fund, went on television to explain new regulations for fund credit. The formerly high ceiling of SR300,000 for all private housing loans was to decrease with the size of the locality to a low of SR100,000, which would also have the effect of attracting applications from the very lowest levels. Likewise the commercial ceiling was reduced from SR15m. to SR10m. Priority would be given to people building themselves a home over those building for investment or commercial enterprise, especially young people, widows and divorcees with children, and those wishing to demolish and replace mud houses. All direct authority was taken from the banks.

Sheikh Aba Al-Khail estimated that 100,000 dwellings, or almost double the ministry housing programme, had been built with fund finance in 126 towns and villages.

Jamie Buchan



SAUDIA'S UNPRECEDENTED GROWTH

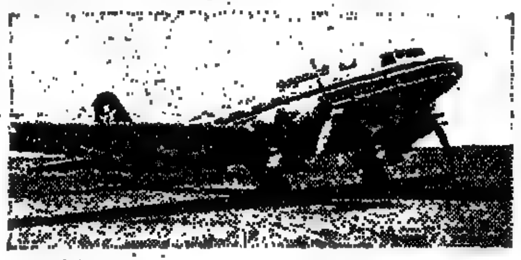
According to data recently compiled by the International Air Transport Association (IATA), Saudi Arabian Airlines ranked first among the 107 IATA member airlines, with a 78% increase in passengers carried during 1976, compared to 1975. An even greater increase of 1,770,000 in 1977 brings the total passengers carried last year to 4,700,000.

The 6,400,000 passengers expected in 1978 will be six times the one million or so passengers carried by Saudia just five years ago in 1973.

Taking off from small beginnings

Saudia has advanced a long way since 1945, when the airline's formation with 3 Dakota DC-3's replaced primitive means of long distance travel across the Kingdom.

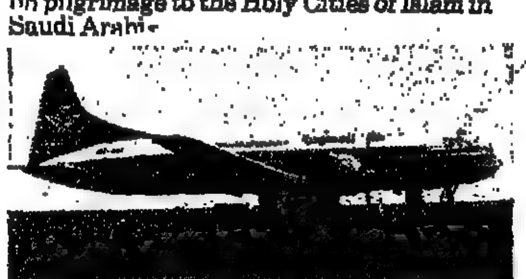
Communications inside the Kingdom were revolutionised when King Abdulaziz bin Abdulrahman Al-Faisal Al-Saud, the founding father of Saudi Arabia, put to good use a DC-3 Dakota presented to him by the late President F. D. Roosevelt on 27 May 1945. The acquisition of two more DC-3's in the same year marked the true start of domestic airline operations in Saudi Arabia.



The possibility of travelling comfortably and avoiding the lengthy land routes traversing the Kingdom decreed instant popularity for the novel form of air transport. Saudia's activity in the early years was to carry passengers and mail – somewhat irregularly – between Riyadh, Jeddah and Dhahran.

When it became evident that three DC-3's were not sufficient to cope with the demand they had created, five DC-4's and five Bristol Freighters were added to the fleet. With thirteen aircraft of its own, Saudia was then firmly in business and on the path of an expansion programme that has continued uninterrupted ever since.

In the year 1962, which is regarded as a cornerstone in the history of the airline's development, Saudia decided to purchase ten Convair 340 that overnight put Saudi Arabia's cities within reach of each other in a matter of hours rather than days. The new aircraft also brought an unprecedented degree of comfort to air travel with their pressurized air-conditioned cabins, and provided convenient transport for Muslims on pilgrimage to the Holy Cities of Islam in Saudi Arabia.



Saudia goes International

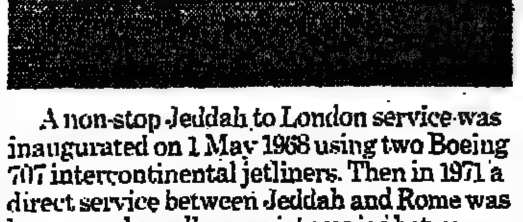
With the airline starting to play a major role in the country's development, its worth was well proven and Saudi Arabia became increasingly air-conscious. More and more equipment was required, and in 1960 three DC-6 were purchased to start scheduled services to other Arab countries, to earn an even bigger share of the pilgrim traffic, and to move vital cargoes quickly and efficiently.

An important event in the history of the airline took place in 1963 when the late King Faisal pronounced by edict the formation of Saudia as a corporation, allowing it to operate as a commercial entity with its own Board of Directors.

In that year also a decision was made to purchase the world's then most sophisticated jet aircraft, and bring Saudia into the leading ranks of Middle Eastern airlines. With the acquisition of two new Boeing 720 B's, Saudia became the first airline in the Middle East to fly the big jets, and was able to extend its international network beyond the Arab countries.

By 1967 the airline had built up an exemplary safety record and standard of service when it was welcomed to membership of the International Air Transport Association (IATA). Two years earlier Saudia became a member of the Arab Air Carriers Organization (AACO) and various air travel associations.

Saudia began flights to Tripoli, Tunis and Casablanca in North Africa via Beirut and in so doing established the first direct link between the Arab East and the Arab West. Also in 1967 the first European route serving Geneva, Frankfurt and London was opened.



A non-stop Jeddah to London service was inaugurated on 1 May 1968 using two Boeing 707 intercontinental jetliners. Then in 1971 a direct service between Jeddah and Rome was begun, and an all-cargo jet service between Europe and the Kingdom provided the fastest onward connecting service for transatlantic cargo.

In 1972 Saudia's services reached 49 cities in three continents, including a domestic jet network linking 20 centres in the Kingdom. Its jet fleet became the most modern in the Middle East, with two Boeing 707's, two Boeing 720 B's and five new Boeing 737-200's, the most sophisticated twin jet of its size in the world.

To improve internal organization, Saudia opened its own Data Processing Centre in Jeddah, equipped with IBM 360/20 computers for use in its day-to-day business and long-term planning.

For the first time in a single year, 1973 saw Saudia carrying over a million passengers on scheduled services in addition to the many thousands of pilgrims and teachers carried on the airline's special flights (Saudi Arabia employs thousands of teachers from nearby Arab countries).

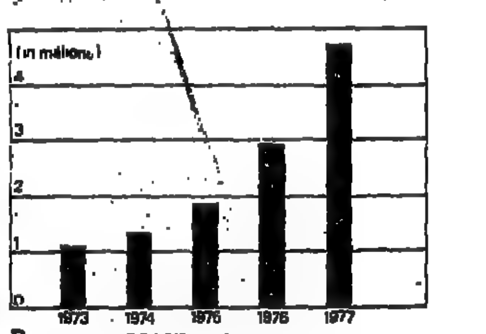
To celebrate thirty years of operation, in 1975 the wide-bodied long range jet TriStar was introduced. Thus Saudi Arabia was again the first M.E. carrier to enter the new jet age of wide-bodied aircraft. Also, domestic fares were reduced by 25%, to ease the burden of the travelling public. It was therefore not surprising that over the next year ten new aircraft were added to the fleet and domestic passengers alone skyrocketed by 80%.

To simplify this passenger movement and give more convenience to the customer the "Arabian Express" shuttle service was introduced in June 1976 between Jeddah and Riyadh. Immediate success brought load factors exceeding 80%, and the total passengers carried each month averaged 44,000. In August, the service was extended to the Riyadh – Dhahran sector.

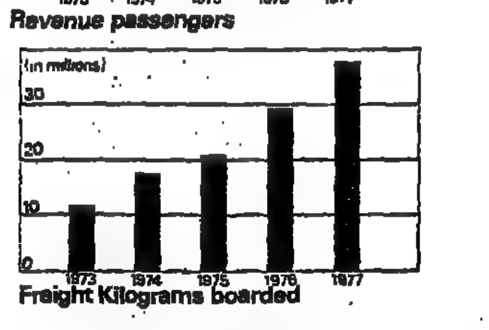
The Arabian Express service with its frequent flights, minimal formalities, and reduced fares, has opened up domestic air travel to a much wider public, and it is expected that passengers carried per month will soon exceed 100,000 on the Jeddah – Riyadh sector.

Expansion continues

Last year saw further expansion throughout Saudia. The number of passengers carried was increased by 60% and there was a similar increase in freight. A new passenger route was opened to Tehran and an "Airbridge" was established between the Kingdom and Bahrain in cooperation with Gulf Air. This airbridge with 18 flights every day coupled to the other Saudia services now provides rapid links east-west across the whole of Arabia.



Revenue passengers



Freight Kilograms boarded

Two Jumbo jets (Boeing 747's) were leased in June to provide direct flights from Riyadh to London five times per week, as well as

daily flights to Cairo. There are now 15 flights per week between the United Kingdom and Saudi Arabia.

Sophistication on the ground

To support this operational growth required an increase in employees to more than 10,000. Two-fifths of these employees are directly serving the customer at offices and airports spread over four continents.

Many recent improvements provide better service for the travelling public and cargo customers. An automated reservation system has been installed: new flight operations control centres have been established: completely modern freight handling methods have been introduced at Taif and Abha: Jeddah and Riyadh will have brand new cargo facilities this year: automatic flight management systems have been installed in the Lockheed TriStars: modern passenger facilities have been provided at Riyadh airport, and a new departure terminal has been equipped at Jeddah.

In space, high above the Indian Ocean and the Atlantic Ocean, two satellites transfer messages from Saudi Arabia to London and bring back the answers from a computer. The response time is less than three seconds which is comparable with or better than all other communications links of this type. This automatic reservations system replaces manual methods which used to handle the thousands of messages each day at great cost in time and effort.

Reliability is assured by using two channels of communications over the whole route. Messages go by microwave and cable from Saudi Arabia to the master computer in London via either the Indian Ocean satellite or the Atlantic Ocean satellite. Earth stations in Riyadh and Taif transmit the ground signals into space.

In Saudi Arabia the system is on-line from the Jeddah Network Control Centre (NCC) to all the main Saudia reservation offices. The NCC is unique in its design and one of the most advanced in the world.

Passenger reservations from Saudia offices as far apart as Los Angeles, New York, Stockholm, Geneva, Casablanca, Bombay and Kuala Lumpur will be linked into the system by teletype. Soon the master computing facility will handle Saudia business from the United Kingdom and Egypt.

British Airways secured the contract for the automation of the Saudia reservations system. In competition with several major airlines with systems marketing experience, they were selected because they were large enough to provide all the necessary developmental support.

In Jeddah the airline has a computerised automatic call distributor system which is unique in Europe, Africa and Asia.

The ultra-modern communications network being established by Saudia will offer further attractive features. The master telephone system now integrates all Saudia telephones in Jeddah with central control of 1,800 extensions. Up to 14 operators can handle any incoming call so that optimum efficiency is obtained. There is an ultimate capacity of 5,400 extensions, with the necessary number of city exchange lines.

The next planned innovation is a "direct in-dialling" feature so that an outside caller can self-dial any Saudia extension.

Saudia's modern, growing base

At Jeddah international airport a spacious well equipped departure lounge was completed in 1976. Construction of a completely new departure terminal is now well advanced, and by 1980 the new International Jeddah airport will be operational.

Saudia operations planning moved to a new Jeddah control centre in 1977 with up to date facilities. In London, a flight operations centre was established 12 months ago. This provides round-the-clock coverage for all European operational functions including crew scheduling, crew briefing and flight planning. Other flight operations offices were established at Riyadh and Paris airports.

Currently under construction in Jeddah is a new operations training building which will provide completely modern facilities later this year. New equipment for flight simulation, crew procedure training and cabin staff training will be installed.

During the past two years Saudia has been developing a new housing complex for staff on the outskirts of Jeddah. Known as "Saudia City" it will eventually provide 3,000 homes and is already accommodating more than 300 families. A new Social, Athletic and Cultural Centre in Jeddah provides Saudia staff with a range of sports and other activities.

Just completed this month is an extension to Saudia's headquarters building to provide a much needed acre of additional floor-space. (See below).

As well as passengers on scheduled services, every year a massive movement of pilgrims (Hajis) takes place when millions visit the Holy Cities of Mecca and Medina. In 1977, in conjunction with other airlines, over 500,000 Hajis were airlifted. In the smoothest ever operation of this type Saudia showed how its facilities could be expanded to efficiently handle this large extra number of passengers over a very limited period.

Saudia's specialist services

Saudia also caters for other special needs. Special Flight Services (SFS) is a separate division of the airline which operates a fleet of light aircraft. The division has the important job of carrying cabinet ministers and senior government officials on affairs of State. SFS also provides a charter service to remote locations in the Kingdom not covered by Saudia's scheduled services.

The addition of two Grumman Gulfstream jets in 1976 boosted the non-stop flight capability to 3,000 miles, and late in 1977 this highly successful venture was expanded by the addition of two more Gulfstreams.

From the plans laid in 1963, when the Air Cadet Programme was founded, training

activities have multiplied to keep pace with expansion. In 1977 the highest ever number of flight crew received training and Saudia now has 450 qualified pilots and engineers.

In addition to the usual training requirements associated with airline operations, Saudia is playing a unique role in manpower development. The airline recruits the majority of its work force from students at varying educational levels from junior high school graduates to university graduates. They are enrolled in programmes of two to seven years in duration and on successful completion are assigned permanent positions.

Besides flight training and long range educational programmes extensive courses are conducted in aircraft maintenance, sales and service, cabin attendant services, ticketing and reservations, operations services, finance and data processing.

There is also a management development programme which began in 1972 and receives an equal degree of emphasis. Its objective is to prepare potential managers to fill vacancies in the corporate management structure and to upgrade the general standard of management.

Saudia's Fleet

AIRCRAFT TYPE	1973	1974	1975	1976	1977
LOCKHEED TRISTAR L 1011	–	–	2	6	8
BOEING 707	4	4	7	7	10
BOEING 720-B	2	2	2	2	2
BOEING 737	5	7	7	14	16
BOEING 747*	–	–	–	–	2
DOUGLAS DC 8*	–	–	–	–	2
DOUGLAS DC 6	5	4	4	3	–
CONVAIR CV-340	6	6	6	–	–
APACHE 235	2	2	2	2	2
CESSNA 421-B	–	–	2	2	2
BEECHCRAFT	–	–	2	2	2
FOKKER F 27*	–	–	3	3	3
GRUMMAN GII	–	–	–	2	4
TOTAL	24	25	38	42	54

*leased

The table shows the growth of the Saudia fleet during the last five years. Maintaining this large and diverse fleet of aircraft presents a continuous challenge to the two thousand men in Technical Services Division, particularly since inspection of all equipment used on Saudia aircraft is carried out to standards exceeding those stipulated by both manufacturers and world civil aviation authorities. Similar thoroughness is applied even to equipment that will in all probability never be called into use such as emergency lifecrafts and jackets. More than one riyal in every seven riyals of revenue is allocated for maintenance.

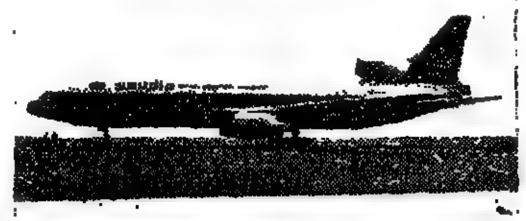
Future expansion

Although the second 5-Year Plan of the Kingdom is generally regarded as being ambitious, Saudia exceeded the five year targets for passengers and fleet growth in the first two years.

Saudia's rapid advance is a direct result of the material and moral support of the government under the wise and able leadership of His Majesty King Khalid Bin Abdul Aziz and His Royal Highness the Crown Prince Fahad Bin Abdul Aziz and the relentless efforts put up by its employees who undergo extensive training programmes in accordance with the highest international standards.

When interviewed in Jeddah last month Sheikh Kamil Sindi, Director General of Saudia, emphasised the importance of the airline's investment in training. Several training centres have been established as well as the air cadet programme which is unique in the Middle East. At present Saudia has 158 trainees studying on courses outside the corporation in addition to 162 undergraduates, of which 123 are at universities outside Saudi Arabia. For operations and maintenance there are currently 195 being trained as pilots, flight engineers and flight operations officers, and 141 as technical staff. Altogether 2500 employees have been under training during the last six months including 818 who have enrolled themselves in the education assistance programme.

Another important factor is anticipation of the fleet requirements by effective planning and research. Saudia's fleet now has 54 aircraft including eight TriStars.



Three years experience with the Lockheed TriStar have shown it to be the most comfortable large jet for long distance travel. Also, Saudia is the first airline to equip its TriStars with the new computerised Flight Management System, the only such automatic device in existence. These are the most advanced wide-bodied jets in the world and are fitted with the Rolls Royce RB211-524 engines which gives greater performance and a range up to 4,450 miles.

By the end of 1978 there will be 10 advanced TriStars in the fleet as well as 19 Boeing 737, two Boeing 720, 10 Boeing 707, and two leased Boeing 747. Services and facilities will be further enlarged to give a better service to both international and domestic passengers.

Sheikh Kamil Sindi was in London last December at a celebration to mark the tenth year of operation in the U.K. Ten years ago Saudia had a single Boeing 720 on the route Jeddah, Beirut, Geneva, Frankfurt, London, with a seating capacity of about 500 per month.

From such small beginnings Saudia has become the largest Middle East Airline with 12 passenger flights per week from London, mostly in wide-bodied jets such as the Boeing 747 and the L-1011 TriStars. This gives a seating capacity of over 15,000 per month. There are also three cargo flights per week from London, carrying 300 tons per month.

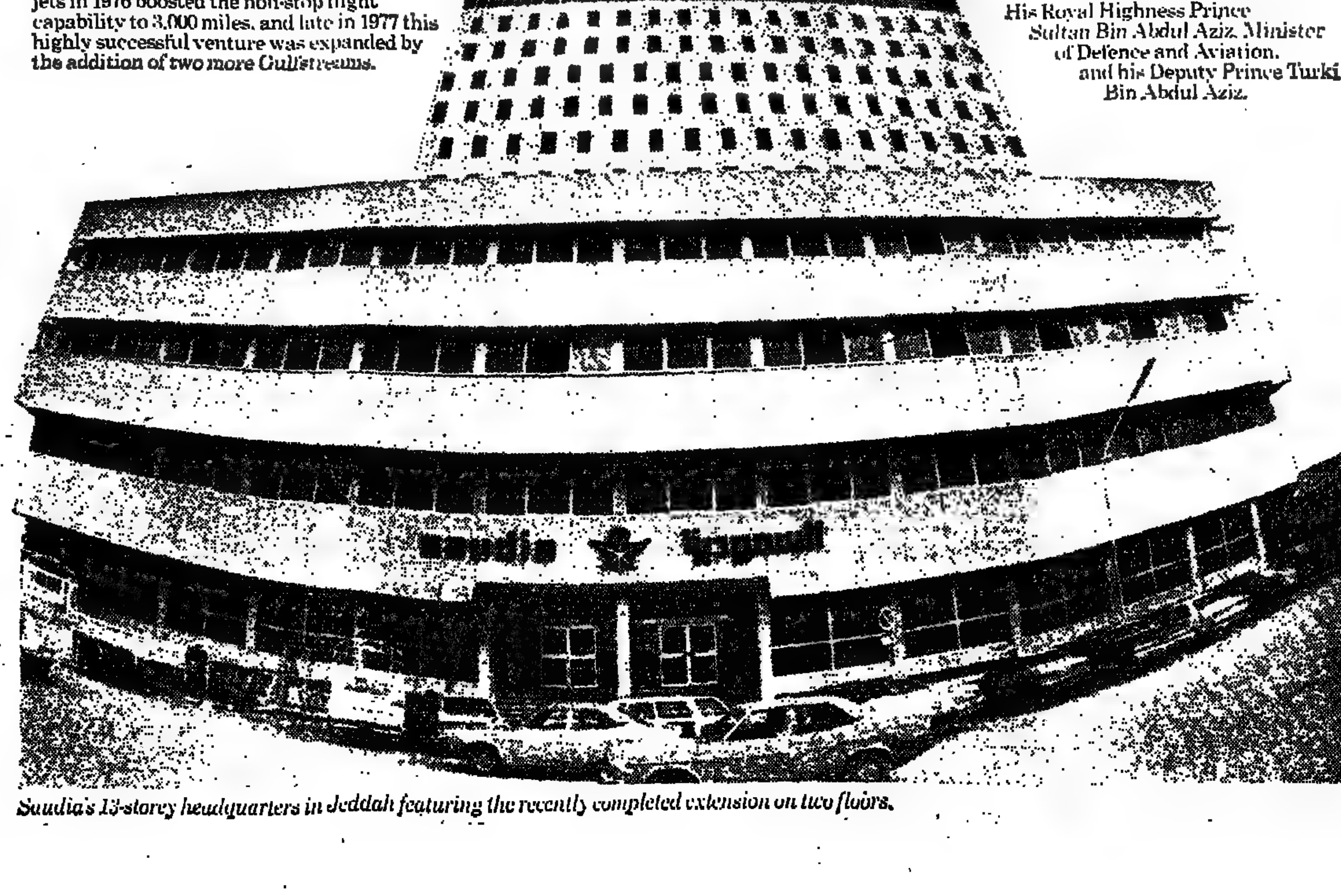
Another indicator of Saudia's huge growth in the U.K. is the number of its local staff. Ten years ago Saudia employed five people in London. Today that number has risen to 215. Figures for passengers flying from London are 1976 – 62,000, 1977 – 78,000, and for 1978 a figure of 100,000 is forecast.

A new route to Athens is planned for this summer. Extended routes to the East as far as Japan and to the West as far as the United States are being considered.

Between 9 and 10 million passengers are forecast for 1980.

In 1979/1980 Saudia will operate an "International Airport Catering Unit" at the new Jeddah International Airport. This Catering Unit will give the airline total supervision of its food requirements including hygiene and bacteriological control, and provide the means for maintaining and improving the high quality of its food service. The unit is being established with the assistance of S.A.S. Catering Services, who are leaders in the field of airline catering.

Sheikh Kamil Sindi paid tribute to the continual support he had received from the Chairman of the Board of Saudia, His Royal Highness Prince Sultan Bin Abdul Aziz, Minister of Defence and Aviation, and his Deputy Prince Turki Bin Abdul Aziz.



Saudia's 13-storey headquarters in Jeddah featuring the recently completed extension on two floors.

Students at the College of Agriculture, Riyadh University.

There is no difficulty in finding the money to finance Saudi Arabia's ambitious plans for the expansion of education. But some problems, such as the shortage of Saudi teachers, cannot be dealt with overnight, and it is accepted that change to the educational structure will have to proceed slowly if the conservative nature of Saudi society is not to be damaged.

Education

FEW MINISTRIES in Saudi Arabia bear greater responsibility for how its citizens will survive the stresses of modernisation than those of education and higher education (created separately in October, 1975). In their hands is the dilemma of how to adapt conservative Islamic traditions to modern and more independent and materialistic thinking without losing sight of the essential virtues and values of Saudi society. There is, too, a simultaneous drive to produce Saudi manpower to cope with the country's economic development. The result is inevitably an educational system shot through with paradoxes and contradictions.

The Saudi Government is only too aware of its tasks in this field and has not shied away from spending on a huge scale on this sector. Education has regularly taken between 11 and 13 per cent. of the annual budget, ($2.3bn. in 1977-78), third or fourth after defence, communications and municipal and rural affairs. Over 15 per cent.—SR74bn. ($21bn.) out of SR489bn. ($142bn.)—of the current development plan is being spent on education. Expansion has thus been considerable. There are now over 1m. pupils at all levels, compared with about 700,000 at the beginning of the decade. The increase has been most marked at intermediary and secondary levels. Last year, the equivalent of a new school was opened every day.

The 1975-80 plan has ambitious targets. The number of elementary pupils is to rise from 618,878 to 1,041,163 (and schools from 2,899 to 4,467); on the intermediate level from 120,410 to 230,052 (schools from 557 to 991); and on the secondary level from 35,444 to 72,486 (schools from 141 to 231). Students in teachers' training colleges are to rise from 15,689 to 27,487 (the number of institutes from 46 to 60); in technical institutes from 3,685 to 14,405 (schools from 16 to 37); adult literacy programme is to expand from 84,433 pupils to 519,831 (and schools from 1,114 to 3,327); and on the university level graduates are to rise from 1,703 to 7,158, while enrolment which in 1976-77 according to the Higher Education Ministry was 23,610, of whom 14 per cent. were women, is to rise from 15,327 to 42,965.

The annual report of the Saudi Arabia Monetary Agency grandly sums up the government's priorities whereby "the emphasis is not placed merely on expansion of the number of educational institutions but also on uplifting the quality of education through better planning of school facilities and equipment, upgrading school curricula with a view to provide (sic) a scientific and practical orientation to the learning process, and improving educational methods by recruiting qualified teaching staff and school administrators."

The paradoxes which this educational drive throw up are painful. The disadvantages of existing teaching methods are all too plain. Teaching is not an attractive profession to Saudis when compared with the attractions of other jobs. As a result the dependence on non-Saudi Arabs, mainly Egyptians, Jordanians and Palestinians, is high. In 1975-76 non-Saudis accounted for over half the number of teachers, with the greatest concentration of Saudis —78 per cent.—in elementary schools. These foreign teachers are regarded as being industrious but too often not sufficiently interested in education to experiment with new techniques. As a result the traditional methods, with enormous dependence on rote-learning, with its origins in the rhythmical learning by heart of the Koran, and unadventurous and unquestioning respect for the written word, are preserved.

Religious

Understandably religious teaching plays a major part in education, and 12 out of 150 hours of credits is required on religious studies, even for a full B.Sc. course at university.

Nevertheless, the drive to Saudi-ise teaching is going ahead. According to Dr. Saud Jammaz, Vice Minister for Technical Affairs, 90 per cent. of Saudi teachers are graduates of the equivalent of secondary school. Ten teacher training colleges have been set up to accept half its pupils from secondary school direct and the other half from current teachers. The aim is that within a decade all elementary teachers will have had at least two years of college education.

According to Dr. Mahmoud Safar, Deputy Minister of Higher Education, the long-term aim is to raise the Saudi element in higher education staff from the current level of 30 per cent. to nearly three-quarters.

Ideally, the teachers Saudi Arabia would require to encourage personal analysis and experimentation would come from the West, but this is unthinkable in Saudi Arabia's Islamic-based educational system and society.

The government is pressing through technical schools to develop the country's agricultural and industrial skills. But the Saudi background in technical activity is well known, and even more notorious is Saudi reluctance to take part in manual work (while there are others to do it and more money to be made elsewhere).

An additional drawback is illiteracy in a society in which the inability to read and write has rarely proved to be a political disadvantage.

The exact levels of literacy are hard to compute, particularly in a society the exact size of whose population is unknown. But according to Dr. Jammaz, some 45 per cent. of the population can be taken to be under 15, and that of those aged between 6 and 15, 90 per cent. are literate. Above that age, he believes, 55 per cent. literacy prevails. For women over 15 the illiteracy rate is about 90 per cent. But just in the process of furthering education and literacy, there is a risk of driving a wedge between generations.

Saudi Arabia, however, is not lost for ideas and experiments. But dogging the system is one underlying incompatability which will take several years to iron out. While Saudi Arabia is attempting to adopt concepts of education which imply a recognised career structure, the facts of the present system on the whole reflect the dominance of tradition, influence and particular families rather than real ability.

According to Dr. Jammaz there are three main thrusts in educational policy at present. The first, already mentioned, is to improve the standard of teachers. The second is to reform curricula. Currently, curricula—except at the higher levels—are generally modelled on those of other Arab countries, in particular those with unsuitable Egyptian-French characteristics. Progress here has been disappointingly slow, but even so efforts are being made to reshape the approach to subjects by defining them less individually, and more are part of broader topics. Thus history is presented in the context of social studies, and arithmetic as part of general mathematics.

The third drive is directed towards school building. It is acknowledged that this is perhaps the easiest aspect to achieve and that the production of schools does not ensure a new educated population. But in defence of this, officials argue that the massive building programme does ensure that the framework for educational progress exists.

But leaving these problems aside, the educational programme has had some undeniable benefits. One is the subsidised school meal system which has expanded from 17,866 pupils (costing SR3.1m. — $900,000) at the beginning of the decade to 468,166 in 1976-77, costing SR342.7m. ($100m.). A second benefit has been in educating and help to settle the bedouin. It is impossible to cope with those who are perpetually on the move, but in 1977 there were four mobile teams catering for the tribes when they settle near their waterholes.

Examinations have been particularly problematical, and teachers, especially on the secondary level, proven to falsify marks. But again, under American influence, there are efforts to concentrate less on the outcome of one exam a year and more on spreading the load of assessment through a combination of one examination and performance over the year.

In higher education, there is almost total worship of the doctorate. At present there are perhaps 300 PhDs in the existing six universities and over 2,000 studying for MAs at least out of a total of 20,000 students studying abroad. Of these at least 8,000 are in the U.S., and the remainder in Britain, Europe, the Middle East and Pakistan.

Existing

Within the Kingdom, the aim is not so much to establish new universities (although the possibility of setting up an exclusively female university is at present under study) but in building campuses in new centres attached to existing universities.

But there is now an increasing trend on the lower levels of higher education to keep students at home. The first and tacit reason is to limit the exposure of students to the western way of life. The second stems from concern about costs, for in the last year some universities have been having difficulties with their budgets. Third, as the domestic system expands it is felt to be wasteful not to take advantage of these facilities.

One particularly striking aspect has been the expansion of women's education. Possibly because there are fewer distractions, their academic record is frequently better than those of the men. But careful segregation is practised to ensure that shared facilities are not used simultaneously, and lectures are watched on television. Paradoxically, the Directorate of Girls Education is a governmental authority independent of the Education Ministries. But while this advance must be recognised as a bonus, it will eventually raise difficult questions about what the role of women should be in Saudi society.

And the standards reached in general? Independent observers reckon that graduates of the University of Petroleum and Minerals in Dhahran, which has a special status and links with American universities, are on a par with degree-earners in either the U.S. or Britain. Elsewhere, their graduate standard is reckoned to be on a first-year university level. There is, too, the prospect that standards may slip as universities have been ordered recently to accept any Saudis with a secondary level certificate rather than insisting on specific levels of qualification.

Thus the system which emerges is uneven in shape with pockets of sophistication and bright, up to date ideas. But it is attached basically and broadly to a system which badly needs reform and modernisation. But these changes will have to come around gradually, as officials are only too aware, if irreparable damage is not to be done to the conservative nature of Saudi society.

A.McD.

NUMBERS OF STUDENTS AND TEACHERS BY LEVEL OF EDUCATION

1975-76*

	Total pupils	Male pupils	Female pupils	Tchrs.	Schools
Kindergarten	15,485	8,957	6,528	439	92
Elementary	686,108	439,502	246,606	34,482	3,497
Intermediate	154,488	106,671	47,817	8,788	718
Secondary	48,826	34,970	13,856	2,616	212
Teacher training	14,651	10,587	4,064	1,139	62
Technical education	4,063	4,063	—	619	21
Special education†	1,804	1,550	254	630	45
Higher education	26,437	21,127	5,310	2,133	—
Adult education‡	95,341	68,082	27,259	13	1,743
Others	10,791	9,818	973	316	111
Total	1,057,984	705,327	352,667	51,176	6,501

*Includes private sector of 62,220 pupils and 1,411 teachers, especially at kindergarten and elementary levels. † Specially for deaf and blind. ‡ Anti-Illiteracy schools, all but 13 teachers are part-timers.

1976-77§

	Total pupils	Teachers	Schools
Kindergarten	832	51	3
Elementary	466,836	25,188	2,987
Intermediate	123,548	7,926	669
Secondary	44,036	2,263	190
Teacher training	10,363	815	39
Technical education	5,169	785	27
Special education	1,690	711	52
Higher education	n.a.	n.a.	n.a.
Adult education	n.a.	n.a.	n.a.
Others	n.a.	n.a.	n.a.
Total	652,474	37,739	3,967

§ Includes Ministry of Education schools only, others excluded. As at October 29, 1977. Source: Ministry of Education.

UNIVERSITIES AND COLLEGES IN SAUDI ARABIA—1978

	University	Campus/city	Year opened	Student enrolment (estimated) 1974-75	1975-76	1976-77	1977-78	Girls
1	University of Riyadh	Riyadh	1957	7,000	8,000	9,000	10,000	yes
		Abha					n.a.	
2	Islamic University	Medina	1961	200	300	400	500	no
3	University of Petroleum and Minerals	Dhahran	1963	1,200	1,400	1,750	2,200	no
4	King Abdul Aziz University	Jeddah	1967	3,000	4,000	5,500	7,500	yes
		Mecca					n.a.	
		Medina					n.a.	
5	Imam Muhammad ibn Saud Islamic University	Riyadh	1950	200	300	400	500	no
		Abha						
		Gassim						
6	King Faisal University	Dammam	1975		100	200	350	yes
		Hofuf	1976			75	200	
7	King Abdul Aziz Military Academy (Ministry of Defence)	Riyadh	1955				n.a.	no
8	Internal Security Forces Academy (Ministry of Interior)	Riyadh	1935				n.a.	no
9	King Faisal Air Force Academy (Ministry of Defence)	Riyadh	1970				n.a.	no

NOTES:

In addition to about 25,000 college-level students at the various institutions of higher education in Saudi Arabia, there are an estimated 20,000 Saudis studying at universities abroad, of whom half are in the U.S. The numbers abroad jumped dramatically due to the large numbers sent on military scholarships, and to the addition of wives of students to the rosters of eligible students for scholarships.

In the figures above, part-time students and students-by-correspondence (mostly women who are not allowed physically to attend classes) are not included.

There are an additional five junior colleges in Riyadh, Mecca, Gassim, Medina and Abha for teacher training. There are an additional two science and mathematics teacher training centres in Riyadh and Dammam.

Source: Hassan el-Husseini, University of Petroleum and Minerals.

The contracting market in Saudi Arabia is the biggest in the world, and the rewards for a foreign operator prepared to abide by the rules and run the contract according to the local conditions are considerable. With the growing emphasis on industrial projects, the trend now is towards the setting up of joint Saudi-foreign companies with specialist capabilities.

Contracts

NOBODY CAN fail to be impressed by the sheer scale of the construction operation now going on in Saudi Arabia. Whether one is looking at the series of equipment parks which stretch for mile after mile down the Khobar-Dammam road, or trying to grasp the cost of some of the biggest projects (the gas gathering system alone is now priced at $15bn-plus), it is not difficult to believe that the building of Saudi Arabia's infrastructure and industry makes the Kingdom the biggest contracting export market in the world at the present time.

So inevitably over the past 12 months contractors have been very sensitive to every nuance of Government policy, following the slowdown in spending which has involved some big projects being postponed indefinitely), and the Government's cancellation of a number of major contracts in the early part of last year. On that occasion the Ministry of Industry threw out the lowest bid for the telecommunications expansion programme and re-awarded contracts for the construction of some power stations Third World firms—alleging in both cases that the Western contractors involved had been conspiring together to inflate their prices. In practice the event did not lead to any general discrimination against western firms, which it was feared at the time might follow from the cancellations—though it is hard to see how the Government could have avoided continuing to rely mainly on western firms no matter what its preferences might have been.

In as much as any bias can be discerned at present in the Government's award of contracts, it is that all major contracting nations should receive a share of Saudi business, that Third World companies especially should be given a chance to prove themselves, and that in *the recruitment of labour there* should not be too great an in*flux of manpower from any one* country.

*Of course the whole cancella*tion "crisis" raised the questions of whether the Saudi Government was not an unduly inflexible client for contractors, and whether the profits to be made in contracting in the Kingdom were anything like as big as they appeared to be. But now that the dust has settled, the consensus among firms that have got used to working in Saudi Arabia is that if a contract *is run well by the con*tractor, the profits can indeed *be considerable. Similarly it is* felt that the Government's terms, *although different in* some respects from the international norm, are not unreasonable—on balance.

Generally speaking both the Saudi Government and Aramco award contracts on a fixed price *lump sum basis, because* although this may work out more expensive, it seems that the Government at least sets store by knowing in advance what each job is going to cost it, and anyway lacks the manpower to monitor too many escalation clauses or cost plus contracts. Not unnaturally this practice has made contractors in Saudi Arabia acutely inflation conscious—all the more so because *inflation rates in the Kingdom* have recently been high and over the two or three year life of some contracts inflation rates are obviously quite impossible to predict. Western contractors often claim that here they are at a disadvantage vis-a-vis Asian firms, which can put in bids based on optimistic *predictions* of inflation rates, in the sure knowledge that the support they receive from their *governments* will protect them against loss should *their projections prove* wrong.

That at least is the theory of the disadvantages in the system. In practice quite a number of contracts do contain escalation clauses—sometimes linked to the cost of living in the Kingdom or to an iron and steel price index. *Also a lot of the biggest* contractors, and particularly *those firms which are also in*volved in project management, *come in on the really massive* contracts *on a cost plus basis*—*though* their sub-contractors have fixed price contracts. In fact it would be impossible to run the biggest contracts on a fixed price basis. For instance, there are still major decisions to be made on the type of equipment to be used in parts of the seawater treatment plant which is being *installed to reinject* pressure into the south Ghawar *oil field—and this contract has* been under way for four years *already*.

Purchasing

At the same time there is considerable scope in some cases for a contractor to avoid agreeing a final price until he has completed *most of his purchas*ing of materials—as Chiyoda did *with the Riyadh and Jeddah* refinery contracts. And it is also *possible sometimes for* contractors to profit from their clients' failure to honour supply clauses, if, for instance, they fail to provide materials promised on the due date. In these circumstances there can be a 30 or 40 per cent. difference between the "going-in" and the "*coming-out*" *price*.

When it comes to actual bidding procedure, the system in Saudi Arabia is that Aramco does not require bid bonds at all but that the Government *requires a bond of 1 per cent.* to be posted when the bid is *submitted. When a bid is ac*cepted this bond is replaced by a *10* per cent. *performance* bond, and on the receipt of the first advance payment from the Government the contractor also provides a cash bond, under which it guarantees to repay to the Government any cash that it has received beyond the amount due for work already completed should it default on the contract at any stage. Finally on completion of the job the contractor provided a 5 per cent. maintanance *bond* to guard the Government *against the consequences of* faulty workmanship. Only very rarely does it seem that there have been instances of bid or performance bonds being called, and nor as yet has there been any published instance of a 5 per cent. penalty clause for late completion of work being enforced.

The normal advance payment in Saudi Arabia is 20 per cent. (double the international norm). Then the contractor receives 55 per cent. of the installed value attached to each item in the contract as the relevant material arrives on site, followed by a *further* 20 per cent. paid in stages as the *job is completed and finally* the remaining 5 per cent. on acceptance—this 5 per cent. being replaced by the maintenance bond. Apart from the more generous advance payment, this system differs from international practice in that the 55 per cent. material on site *instalments would normally be* split into two parts—one of *them being paid on delivery of* the materials to the contractor job.

To bid at all for a contract in Saudi Arabia a contractor *now needs to establish a Saudi* company with Saudi partners or shareholders or to enter a joint *venture agreement with a Saudi* partner. Until recently, though, *a firm could make do with just* a sponsor, or, if it was working *for the Government, it could* obtain a temporary licence to operate without a sponsor.

Formula

Under any formula — from *sponsorship to joint sharehold*ing company — the role of the Saudi parties *involved can vary* enormously, according to the *abilities and preferences* of the Saudis themselves and the foreign firm. In some cases the foreign firm may want nothing more than to fulfil the legal requirements and then be left alone to "do things its own way." But in other cases the Saudis may be used to help find accommodation, office space, land for equipment parks and warehouses and *facilities such* as telex and telephones, as well *as helping sort out supply prob*lems and arrange block visas for the workforce, which on any significant size job *must be pro*vided and *housed* by the contractor. (Since the end of the Hajj last year, the Government has apparently become more worried about the problem of pilgrims staying behind in Saudi Arabia after the rights *are over, and it is now insisting* that contractors engaged on *Government projects do not hire* local labourers who are not *Saudi nationals. This pool of* manpower, composed of labourers who have managed to stay on after the completion of their contracts and labourers who have had their sponsorship transferred, quite apart from left-over Hajis, has so *far* proved extremely convenient *for contractors, saving them* both time and money.)

Above all the major role of the Saudi sponsor or partner is to spot business opportunities and help the foreign company *win contracts. The interpreta*tion of "help" is now acquiring an *increasingly legitimate* character, as the days of "buying the *decision" seem to be* dead or dying in Saudi Arabia, and the big merchants involved in joint companies with some of the bigger contractors seem less and less inclined to win contracts for their affiliates through the use of their name or personal connections. Rather, the trend is very much toward the merchants leaving the companies they have helped build up to win contracts on their *own merit*. Among the more sophisticated elements of the business *community there is* considerable pride in the pro*fessionalism and* aggressive marketing capabilities of the Arab components in the joint contracting companies.

This, though, is not to say that the contracting business in Saudi Arabia is entirely devoid of corrupt practices, and to a considerable degree the corruption *now involves westerners*, who may be bribed to give a *favourable engineering report or* to influence contract *specifications*.

Nor does it mean that winning contracts is becoming a quick or uncomplicated process. Any contractor who wants to do a worthwhile amount of business in Saudi Arabia over a reasonably long period—and there is no doubt that second and subsequent contracts will be easier and more profitable than the *first contract—must maintain* a presence on the ground in the *Kingdom even when he is not* engaged in a project. Then once a contract has been announced and tenders invited the whole process of submitting a bid and generally marketing the company takes two or three times as long as it normally would in the west. There may be a time lag of three or four months between the deadline for bids and the Government's decision on the contract.

At the *next stage* it may take a contractor four or five months between winning the contract and being able to start work. It is difficult in Saudi Arabia to obtain permits for using radios and explosives, and rather than trying to obtain an explosives permit it normally pays a con*tractor to sub-contract* the blasting work to a local firm which already has a licence. Then there are still small localised bottlenecks affecting supplies of various services, bits of equipment or materials. There can be bad bureaucratic delays if the decision taker in the minis*try or State organisation* with which the contractor is dealing happens to *leave* the Kingdom, or become involved in the fantastically time-consuming protocol which accompanies all arrivals and departures of official delegations in the Arab world. Bureaucratic problems such as these may be accentuated by Ramadan and the Hajj—though Westerners tend to exaggerate the impact that these two months have on slowing down life in Saudi Arabia.

The most serious delay of all may involve the mobilisation of *labour*, which for Government and Aramco work has to be recruited outside the Kingdom and imported under the block *visa system*: This system works as follows: after having his bid accepted, the contractor submits his estimate of the amount of labour required to his client, and once the client has approved the figure an applica*tion for a block visa is made to* the Ministry of the Interior. *This Ministry in* turn will forward authorisation to the *different* Saudi embassies involved abroad, permitting *them to issue individual visas to* however many people the contractor is bringing in from each country—say 100 Pakistanis, 100 Indians and 200 Taiwanese—up to a maximum total of 400 per block visa. Normally this process takes anything from one to three months—though in *abnormal cases there may be* additional delays.

Accommodation

Finally the contractor has the problem of providing accom*modation for his labour force* on every job worth more than about $30m. But once the contractor has his labour on site he can probably be more certain of completing the job on time than he can in Europe or America. Although he may have the same problems that he would anywhere with the delivery of materials, he does not have to contend with bad weather and industrial disputes.

Overall the delays and the extra expense of importing and *housing mean that the cost of a* labour-intensive project, such as a housing scheme, *may be* double what it would be in the west. However, the additional cost of an industrial project, where there is scope for pre*fabricating large pieces of plant* in the supplying country, may be as little as *20 or 25* per cent.

The list of delays, additional costs and special *features* of the Saudi market looks daunting, but in practice a contractor who understands how to work in the Kingdom can do very well. With a major turnkey contract there will probably be *a sufficient lead-in time, while* the contractor is doing the design *and* purchase work, for the recruitment of labour and the *building* of accommodation to be completed to coincide with the contractor being ready to begin construction. It is mainly with Aramco, which will normally supply the design and materials itself, and *may* sometimes provide accommodation as well, that the contractor has to try to gear himself up to begin work more or less immediately.

At all times the secret of contracting in Saudi Arabia is to be logistically orientated. A vastly greater *proportion of* a contractor's time has to be orientated towards matters of control—of transport, supplies and *size of workforce—than it* does in the West. There have been *instances* of companies going bankrupt through having *had bad internal transport*, or having found themselves employing too great a number of expensive European and American workers. In this context a really good and experienced *contract* administration staff—with an extra flair for exploiting the fixed price lump sum system to the contractor's own benefit — is a *colossal advantage*.

Nor should outsiders be put *off Saudi Arabia by the assump*tion that the market is already sewn up by firms that have established themselves in the Kingdom. As the emphasis in construction tends to move from infrastructure and housing to industry and a whole range of more specialised and more numerous but smaller projects, new opportunities are continually being thrown up for the introduction of new *processes and techniques*. The trend in the Saudi contracting *business now is towards* the establishment of joint Saudi-foreign companies with a specialist orientation.

Michael Field

The arrivals hall of the new £20m. airport built by Laing Wimpey Alireza at Abha. A further £22.5m. contract is due for completion early next year.

The national airline, Saudia, was the fastest growing member of IATA in 1976, and is the biggest carrier in the Middle East. The remarkable growth in air traffic in the Kingdom has posed formidable tasks, but these have been successfully tackled in a busy programme of construction, purchasing and training.

Air services

EARLIER THIS year Sheikh Hisham Nazer, Saudi Arabia's Planning Minister, cited as an achievement of the 1975-80 Development Plan the fact that Saudi, the national airline, had increased its fleet by 10 more aircraft than had been targeted in the plan, and carried 3.1m. passengers in 1976 against the targeted figure of 1.9m.

The cynics might say that the contrast between target and achievement simply indicated the extent to which the State planners underestimated the growth of the Saudi economy, and that a country with an annual revenue of well over SR100bn. should have no difficulty in buying additional aircraft for its airline.

In fact the figures represent a considerable achievement for Saudia. Actually acquiring aircraft may be relatively easy, but quickly expanding staff and operations to handle them and fitting them into often crowded airports is more difficult. Saudia has to cope with all the problems airlines face in developing countries—especially the smallness of the pool from which to draw potential staff and the unfamiliarity of many passengers with airline practice. Because of its size it inevitably needs a larger administration than its equivalent in other countries, and this must function efficiently. Despite occasional teething troubles Saudia has a well-deserved reputation for operational punctuality and efficiency.

Its growth has been phenomenal by any standards. According to the airlines public affairs division its capacity (expressed in available tonne kilometres) rose by 61 per cent. in 1976 and by a further 46 per cent. last year to stand at 1.24bn. Passengers carried rose by 71 per cent. in 1976 and by a further 50 per cent. last year when 4.7m. were carried (with a passenger load factor of 57 per cent.).

Now Saudia has a fleet of 54 aircraft, including two Boeing 747s (leased), eight Lockheed TriStars (owned), 11 Boeing 707/720 passenger aircraft (all but one owned) and 16 Boeing 737s (owned). It also has four freight aircraft (all but one of them leased DC8s) and ten small executive aircraft in its Special Flight Services division, which caters for officials and businessmen. It was the fastest growing airline in IATA in 1976, and is the largest carrier in the Middle East.

Domestic

The majority of Saudia's passengers (some 3.4m. in 1977) are carried on domestic routes, where the airline operates an enormous number of services (including more than 100 flights a week each way between Jeddah and Riyadh, a route on which nearly 1m. passengers were carried last year). To a considerable extent Saudia provides a social service—its fares for economy class passengers were cut by 25 per cent. in 1975 on Government instructions, and so air travel came within reach of almost everyone in the Kingdom. It now costs only SR140 to go from Jeddah to Riyadh economy class, and the SR60 fare to Medina is less than it costs to get there by shared taxi. Saudia operates services to towns that have not yet been connected to the metalled road system.

To solve the administrative problems of handling the high volume of reservations on its internal routes, Saudia in 1976 introduced a no-reservations service for economy class passengers: tickets are exchanged for boarding passes the night before or on the day of travelling, and passengers who do not get on to the flight they want may only have to wait an hour or so until the next departure.

The system works well when demand for seats falls within the capacity available, but at peak times of year departure halls can become unbearably crowded and police have sometimes had to supervise the issuing of boarding passes. The airline now reacts more flexibly, putting on extra flights to meet peak demand, and it tends to meet the pilgrimage traffic and the twice-yearly ferrying to and from Egypt of about 60,000 teachers with chartered aircraft.

For first class passengers there is still the security of a reservation service and Saudia's computerised system now works smoothly. The need to reconfirm bookings before a seat is assured has cut out no-show passengers and raised seat occupancy. For those who know how to go about it, internal flying in Saudi Arabia has never been easier.

Last year Saudia carried 1.3m. international passengers: it operates 12 flights a week from Jeddah and Riyadh to London, all but one either by TriStar or Boeing 747. Saudia is the only airline to operate either international or domestic scheduled flights to Riyadh (there are five flights a week from London); this exclusivity is offset by the fact that the airline does not operate flights to London and Paris from Dhahran, leaving this route mainly to the European carriers.

The airline also offers 14 all-freight services a week from the Kingdom to European cities using mainly DC8 aircraft. Saudi Arabia does not allow split charter flights, which would be the main competition with IATA freight operations. Inevitably the aircraft carry virtually nothing on flights out of the Kingdom, but achieved a 44 per cent. overall load factor in 1977, which in the circumstances is impressive.

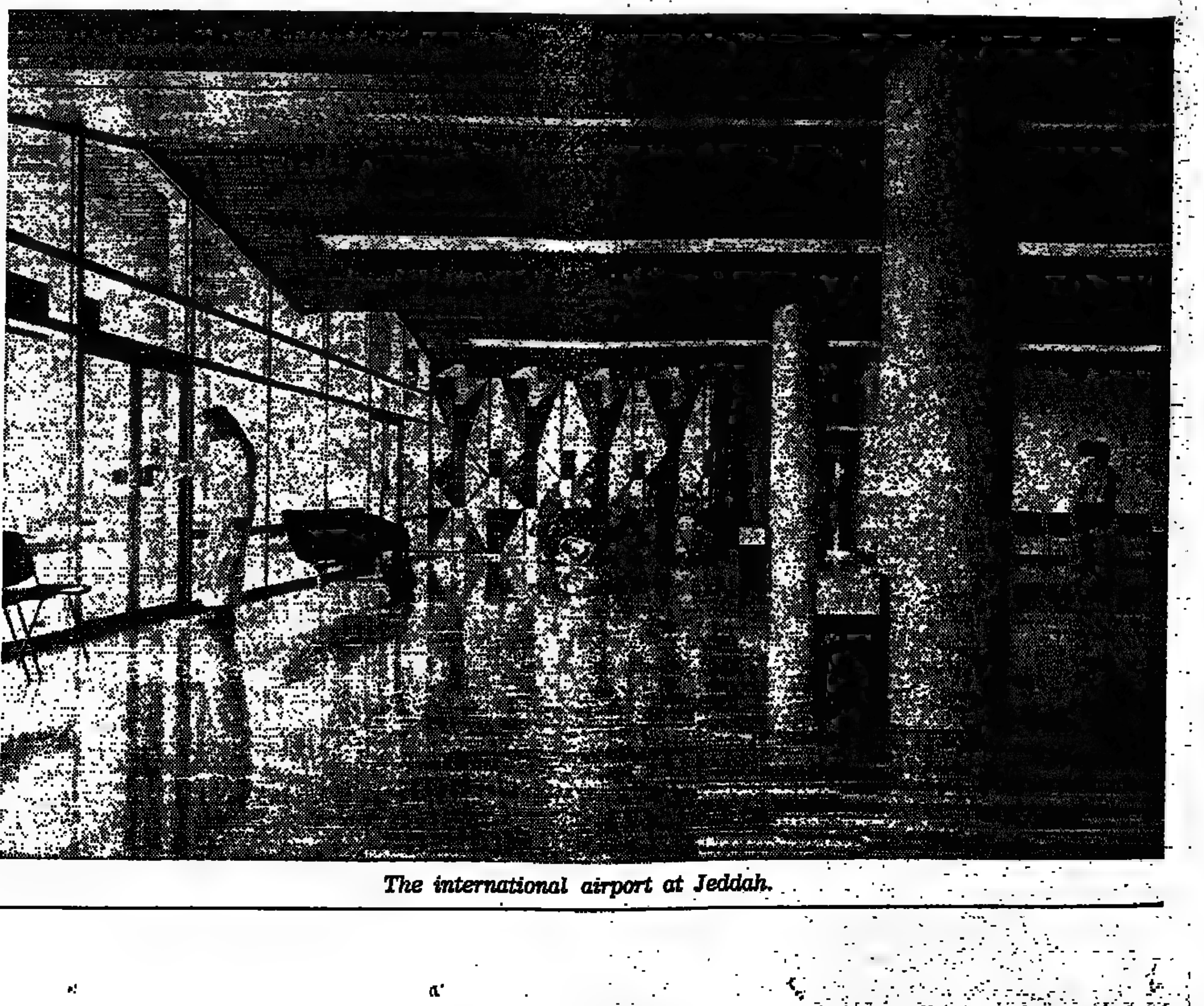
At the end of last year Saudia had nearly 12,000 employees on its payroll compared with 4,500 in 1973. The expansion has meant continually expanding training facilities (most Saudia staff receive all their training in the Kingdom) and a constantly growing administrative and technical capability. The airline does all overhaul work on its Boeing 737s and the 100-hour maintenance checks on its other Boeings and its TriStars.

A tight screening process gives Saudia some of the cream of the nation's manpower. The airline still gets considerable technical and business assistance from TWA, which helped its initial growth, but more than half the staff are Saudis, many of them in key senior and middle level posts. Well over half the airline's captains and first officers are Saudis and the proportion of Saudis to Americans (who make up the rest of the flight crews) is especially high on the TriStars and 737s. So far there are few Saudi flight engineers.

Hampered

Because of the cut in fares, which led to revenue dilution, and because of the start-up costs associated with very fast growth, combined with inflation, Saudia made a loss in 1976 of SR122.3m.—against operating revenue of SR1.17bn. In general the international flights make profits, but the domestic flights, mainly because of the need to operate a social service, collectively run at a loss, and the cargo services are financially hampered by the one-way only loads. The bulk of the company's long-term debt is provided interest-free by the State's Public Investment Fund.

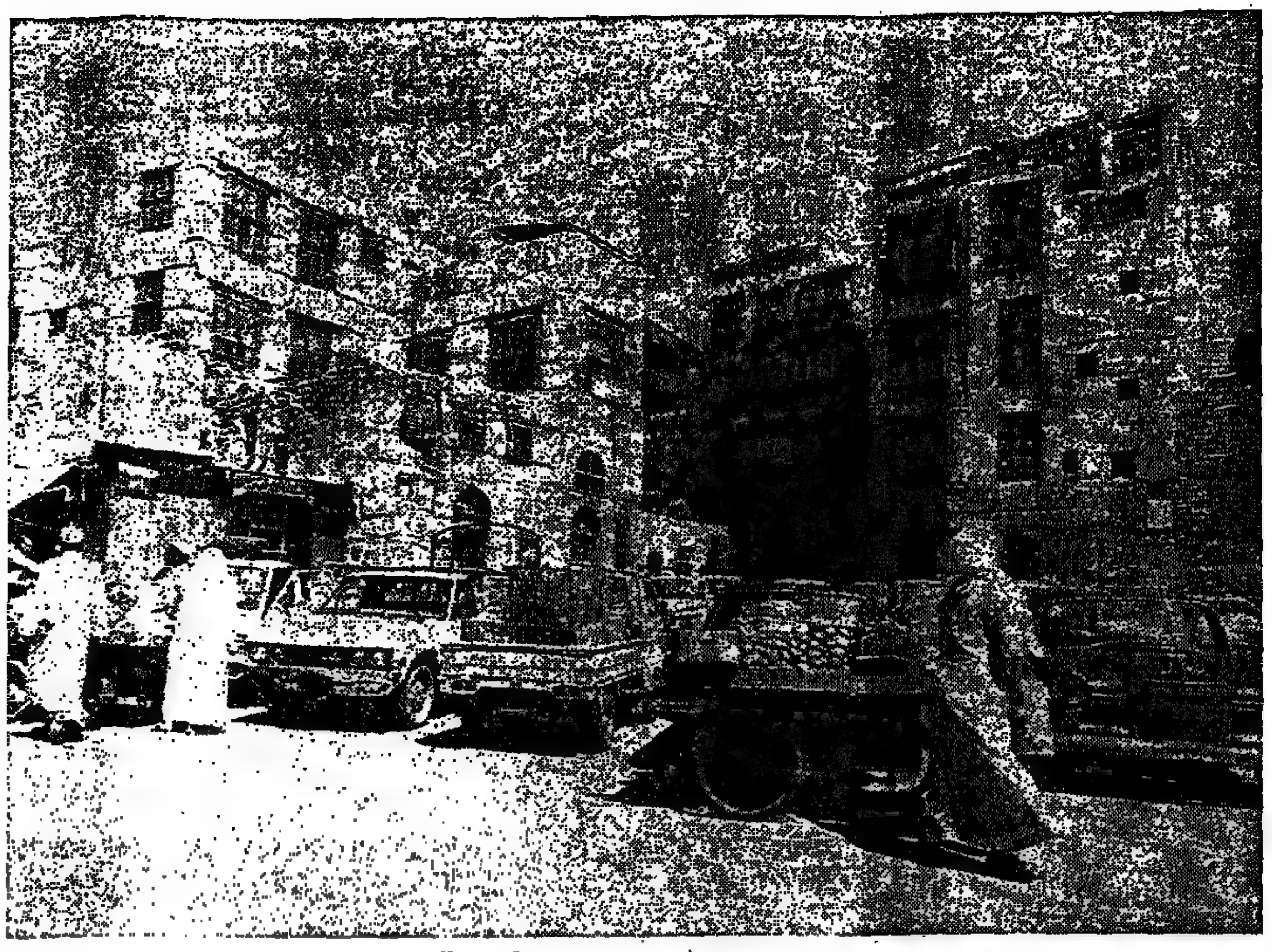
James Buxton



The international airport at Jeddah.

Saudi Arabia has not joined the international tourist circuit. Most of its visitors are businessmen or pilgrims, and the country has no need of tourist revenue. But as the guide below shows, Saudi Arabia contains large areas of great beauty and outstanding historic interest.

Sightseeing



The old Turkish quarter of Jeddah.

GUIDED TOURS and package coach parties are unknown to Saudi Arabia. The Kingdom has no need for the foreign currency earned from tourism and does not welcome the inquisitive, snap-shotting holiday-maker. Yet it is visited in the course of the year by rather more foreigners than most other countries.

Most of these foreign visitors, some three-quarters of a million of them, are the Moselm pilgrims coming to Mecca for the *hajj*. *Their interest is in* the Holy Cities and their scope *for sightseeing beyond that is* limited. The other class of visitors, whose numbers are uncounted but who fill the Kingdom's hotels to saturation point. are the salesmen, consultants and contractors who come to do business. Their sightseeing is restricted too, largely by the cost of an extra night in one of the over-full hotels, but some find themselves with a Friday to spare, or a few days to wait when it may pay to take the mind off work.

Jeddah, the main business centre, offers the greatest variety of possible outings. A car is essential and a helpful friend, a hire car or a taxi must be found. Best known of Jeddah's leisure resorts is the Creek, Sharm Obhur, 20 miles north of the city, whose *tentacles are rapidly reaching* out to it. Strip building along both shores has left few and crowded sections of public beach. The best view of the Creek is offered by the delightful chalets and villas of some Saudi merchant families, where they specilise in elegant Friday luncheon parties. The small rented cabins in walled compounds, and the flourishing sailing *club on the southern shore,* are other agreeable places to visit.

Sporting facilities include sailing (usually in small sunfish *before a strong wind*), water skiing, fishing, swimming and *snorkeling* (which is less rewarding than in the open sea). A sophisticated sports resort, the Creek is too crowded to be in any way representative of the country as a whole.

The real *pleasures* of the Red Sea's incomparable coral reef can only be savoured along the open sea and at best some way from the city. Even the *favourite Twenty Nine Palms* site, an hour's drive to the north and just beyond the strange ruined palace of King Saud, is heavily frequented now. *To get away from it all one must* drive on north to the long empty beaches south of the fishing village of Rabigh.

Desert

For a desert outing there is Wadi Fatima, inland of Jeddah and source of much of the city's water. Agriculture in the lower wadi, between the Jeddah-Mecca and Medina-Mecca roads, is much depleted due to the *falling* water table. In the upper wadi, however, north of the Medina-Mecca road, there are luxuriant palm gardens in a lovely oasis setting. They are some 23 km. north of *the village* of Jumum, along a dirt track which can be taken in an ordinary car. The plantations are criss-crossed by irrigation streams in which small fish swim, and are carpeted with *wild flowers*, guava, banana and lemon trees. The only sounds are of bird song and running water.

A round trip can be made by turning north along the *Mecca*-Medina road to Usfan where one takes the new asphalt road across to the Creek. A ruined castle is perched on a hilltop beside this road. In springtime the slopes below it are covered *with tiny desert flowers.*

A longer and more exhausting, though more impressive trip can be made in the day to Taif, the Kingdom's summer capital. *This mountain resort lies* at an altitude of 1,700 m., some 190 km. inland of Jeddah. The heat and humidity *of the* coastal plain are left behind as one winds along the spectacularly sinuous road which climbs the mountain's escarpment; at the top, *and in Taif itself, the air* is always clear and fresh.

The *town itself is most* attractive, its well-kept streets lined with delicate, pink-berried pepper trees, it souq more richly stocked than that of Jeddah and *offering better prices, its hotels* comfortable and its new Government buildings, set in an ancient fort, of considerable architectural interest. In the *valleys around the town there* are ancient dams dating to the first century of Islam, more ancient rock carvings which may go back to 3,000 B.C. or earlier, and delightful cultivated areas among the almond trees, the *apricots and the prickly pears.*

Those with a taste for the *desert might drive on east*wards a further 1,000 km. to Riyadh. A taxi costs about the same as a first-class air fare. Most travellers, however, will arrive by air and be content with seeing rather less of the desert than that. The obvious place to go from Riyadh for a day out is, nevertheless, the desert, and if you have friends who know the area, the desert *can offer many hidden delights.* It is a rich source of fossils, of wild flowers in the right season, of migratory birds in the Wadi Hanifa, especially south of the town, *while to the west the* Tuwaiq escarpment offers a good place for picnics.

The desert around the capital is not devoid of sites to visit either. Most interesting and most accessible is the ruined town of Diriyah on the banks of the palm-filled Wadi Hanifa. Once capital of the ancient Saudi state, it was destroyed after a long siege in 1818 and left abandoned. The ruins can be reached in 20 minutes by taxi *from the city*; in the new village which has sprung up at their feet is a community development centre *offering* a permanent exhibition of handicrafts and produce, also worth visiting.

For a longer outing one might recommend a drive to the oasis of al-Kharj, 80 km. south of Riyadh. The *oasis itself is very* extensive and fruit, cereals and vegetables are grown there for the city. *Large* herds of European milk cows are also success*fully raised.* The *most* interesting places to visit, however, are those where geological faulting has revealed the extensive underground reservoirs beneath the desert. Rarely does one have the chance to see these ancient water supplies of which we hear so much to-day.

In al-Kharj itself the ground has fallen away in two places, leaving great pits some 100 m. across and *130 m. deep, with* sweet water at the bottom of them. This water is raised continuously by diesel pump and caried out through a substantial canal to feed the oasis.

Even more spectacular is the pit of Ain Hit, at the base of a cliff on the eastern side of the road and half way back to Riyadh. There one can walk down a very steep, *dark slope* under the cliff, to find a large *pool of crystal clear water* at the base. It is said that King Abdel-Aziz stopped here to water his camels before making his famous night attack on the *walled city of Riyadh, back in* 1902—an attack which altered completely the course of the Kingdom's history. It is also told that the sight of the geological structures here encouraged the American geolo*gists, who had almost* given up hope of finding oil in the mid-1930s, to go back to Dhahran and try again.

Quite different geological structures, but ones which also exert a tourist attraction, are *the great red sand dunes* at Khurais, 150 km. east of Riyadh on the Dhahran road. At certain times of the year large herds of camels can be seen watering at the wells there.

Choice

For visitors to Dhahran and the Eastern Province the choice of outings is perhaps more straightforward. The beaches of the Gulf offer fine *sand and* lovely views *of an* aquamarine sea still frequented by traditional wooden dhows. They lack, however, the great attraction of the Red Sea's coral reef. *But the Eastern Province* is the one region where, thanks to the tilt of the peninsula, sweet water bubbles to the surface from the underground reservoirs. This is the region of the really vast oases of tall *slender date palms, of dense* undergrowth giving the impression of a European woodland.

Qatif oasis begins almost at the gates of Dammam and extends north along the coast for many kilometres: the broad *sandy* alleys, *running* like bridleways between avenues of elegant trees, offer a perfect afternoon away from the heat and dust of the town. On an even more extensive scale is the oasis of al-Hasa, centred around the pleasant old town of Hofuf. Here the water flows from the springs in veritable canals, one can lose oneself in the woodlands or visit the strange sand*stones caves of Jabal Qarra*, a hillside of weirdly sculpted rock split by long deep galleries where the air is always cool.

I have concentrated on the easy outings from the three major business centres of Saudi Arabia, but I should also mention some of the Kingdom's more remote but beautiful areas. Justly famous is the lovely Assir province of the south west and the picturesque valley of Najran beyond. Abha, capital of the Assir, and Najran, can both be reached by air, and there is a choice of hotels at Abha. The Assir is extensively cultivated in little mountain terraces; its ancient villages are the most photogenic in Arabia, with high mud houses hung with rows of tiles to protect them from the monsoon rains. The people, dressed in cartwheel straw hats and bright-coloured clothes, are *friendly* and welcoming; visitors are often invited in to the high mud houses.

Also accessible by air, and at the other *extreme of* the Kingdom, is the exquisite little oasis of Al Jauf. Here in the far north east, near the empty red wastes of the Nefud desert, *the ancient towns of Dumat al-*Jandal (mentioned in Genesis) and Sakaka reveal a troubled past in the huge, crumbling castles. Marid Castle, balanced amazingly on its rocky pinnacle at Dumat al-Jandal, is believed to date back to the second century BC. Below the castle are the ruins of an entire stone-built town with one of the oldest mosques in Arabia, that of the *Caliph Omar, still intact with* its lovely stone-built minaret. On the lower slopes of the great white bowl which has given the oasis its name (Jauf means "depression") are palm groves and grassy fields in which herds of *cows* graze in strange contrast to the soaring sand dunes on the horizon.

Most famous, yet least easy of access, of Saudi Arabia's sites is that of Medain Salih, the twin city to Petra 2,000 years *ago. Here in a golden* sandy valley of the Hejaz the Nabataeans carved over 100 of their impressive rock cut tombs, in a landscape of beautifully *sculpted cliffs. The engine sheds* of the ill-fated Hejaz railway, with a 1908 engine still in situ, standing beside a ruined 17th century pilgrim fortress, are *bonus attractions of the place.*

The nearest airport to Medain Salih is that of al-Medina some 350 km to the south. A four-wheel drive vehicle is needed at present for the last 15 km *of the trip, over sandy* track, and permission to visit must be obtained from the Ministry of the Interior. For all that, it is a trip through beautiful *mountain scenery into a land*scape steeped with the history of the old incense caravan route, a trip so well worth the making.

Edward Alexander

The emergence of Saudi Arabia as a unitary state owes almost everything to the daring initiative and inspiring leadership of one man—King Abdel-Aziz ibn Saud. In this article the late David Holden, the chief foreign correspondent of the Sunday Times, who was murdered in Cairo last December, summarised his heroic and lasting achievement.

The father of the Kingdom

IN THE MIDDLE of the concrete sprawl of modern Riyadh, the Saudi Arabian capital—surrounded by camera shops, perfume bazaars, and honking streams of traffic — stands a small, round-towered fort of mud to which every visitor should make his pilgrimage. Its name in Arabic is the Musmak; and just three-quarters of a century ago it was the site of one of the most famous battles in Arabia's history when a tall young warrior of the House of Saud led 15 of his companions in a successful assault upon its gates, put the defenders to the sword in the name of God, and proclaimed the revival of his own clan as the lords of central Arabia.

To most visitors in Saudi Arabia to-day that dramatic little affray seems about as remote as the battle of Agincourt is from contemporary Europe. Yet it marked the birth of Saudi Arabia as a modern nation, and the young man who led the raiding party is still honoured above all others, not just as the present Kingdom's founding father, but as its architect and guide through the next 50 years of change.

He was Abdel-Aziz Ibn Abdel-Rahman Ibn Feisal al-Saud, commonly known to the world beyond Arabia as Ibn Saud, and the scale of his achievement between the capture of Riyadh in 1902 and his death in 1953 has established for him an unshakeable reputation as the most remarkable son of Arabia since the Prophet Mohammed.

King Abdel-Aziz ibn Saud photographed during a visit to American oil developments in Saudi Arabia in 1947.

Abdel-Aziz, as he is always known among his own people, was born in Riyadh in 1880 (1297 AH by the Moslem calendar) at a time when the Saud family was in grave disorder and its rule over the surrounding province of Nejd was collapsing before the challenge of rival clans. By the time Abdel-Aziz was ten he had witnessed more murder, fratricide and battle than most people could fear to see in a lifetime, and in 1891 he was forced to join his father, Abdel-Rahman, in secret flight from Riyadh, swinging out on camel-back into the desert by night suspended alongside his sister, Noura, in a saddle-bag. For most of the next decade he was in exile with his family in Kuwait and, to such of the world as then knew or cared, it seemed that the reign of the House of Saud in Arabia was ended forever.

In fact, there were few who felt any concern for its fate. The recesses of desert Arabia in those days were so isolated and austere that only three Europeans had reached Riyadh throughout the whole of the 19th century.

Endemic

Tribal war seemed endemic, security was unknown and beyond Arabia's own shores the downfall of the Saudi clan seemed no more than the immemorial small change of desert custom.

But Abdel-Aziz was a man of wider vision, conscious that his family had once enjoyed a history of more than merely local rule. One hundred and fifty years before, one of his ancestors had made an alliance with a great religious teacher of his day, Sheikh Mohammed Ibn Abdel Wahhab, dedicating Saudi strength to the promotion and purification of Islam throughout Arabia. The Wahhabis, as they were known (although in Arabia itself the term is rarely used) had swept all before them in Arabia for several decades under Saudi leadership, capturing Mecca, harrying Oman and even plundering foreign shipping in the Arabian Gulf.

Abdel-Aziz was raised in this family tradition that united the rigours of desert warfare with the virtues of the faith. His father was an exceptionally pious man and Abdel-Aziz's only education was that of the Koran and the traditional desert sports—camel and horse riding, hunting and sword play. Sitting in Kuwait in unwelcome idleness he resolved to resurrect the family kingdom through the old combination of tribal power and religious zeal; but the genius he displayed in the execution of his plan turned it into something more—a lifelong campaign for the unification and independence of Arabia.

Most of the early years after the capture of Riyadh were spent in extending and consolidating his rule in the time-honoured fashion of a great Arab chieftain through a mixture of worship, war and love. The British traveller and political agent, Gertrude Bell, who was one of the first Europeans to meet Abdel-Aziz in his prime, described him as a "politician, ruler and raider" who illustrated "a historic type." His hands were fine, she noted, with slender fingers, yet he had "great height and breadth of shoulder" together with "powers of physical endurance rare even in hard-bitten Arabia..... he is of proved daring, and he combines with his qualities as a soldier that grasp of statecraft which is yet more highly prized by the tribesmen."

Pinned

Prayer, women and perfumes, it was said, were his greatest pleasures in life, in that order. To enforce the first, he formed the armed companies of Ikhwan, or brethren, whose strict Wahhabism brooked no laxity before God and whose marauding cavalry became the terror of all his enemies.

But the Ikhwan's conquests were cemented by his marriages—and his magnanimity—as he found wife after wife among the families of his vanquished rivals, as well as those of his allies, so that his seed was spread the length and breadth of his growing kingdom and old enemies as well as friends were encircled with the bond of blood.

The 44 sons that resulted formed the nucleus of the current Saudi State: they and their sons to-day still administer Abdel-Aziz's legacy. But the peculiar circumstances of the 20th century gave that legacy an extra dimension that in his first years even Abdel-Aziz could not foresee. When he forced the doors of the Musmak at sword-point, virtually the whole of Arabia was innocent of any technology that had not been common already in the prophet's day. Yet within 30 years the motor car, the wireless and the aeroplane were helping Abdel-Aziz to construct a bigger and more stable kingdom than any Arabian ruler for a thousand years. They were also, as we now know so well, opening the way to the biggest change of all—the discovery and exploitation of Arabia's oil.

For Abdel-Aziz, the oil discoveries came so late in the day that they seemed almost as much of a burden as a reward. Before the First World War the total annual income of his state rarely exceeded $150.000 and even in the 1930s, after he had become ruler of Mecca and its valuable pilgrim trade, he was forever on the edge of bankruptcy.

When the first American oilmen came sniffing at his deserts the King's hopes were on what now seems a pitifully modest scale. "O," he sighed one day to his old friend, St. John Philby, the British explorer, "if anyone would offer me £1m. I would give him all the concessions he wanted." In fact, he got just £50.000 from Standard Oil of California for the exploration rights in his Kingdom, and it was not until after the second world war that his income began to rise towards what we now think of as the customary level of oil wealth. By 1953, when he died crippled with arthritis and half-blind, Saudi Arabia's national income was over $300m. a year—2,000 times what it had been when Abdel-Aziz captured Riyadh—and the face of the country was starting to show, for the first time, those physical changes that in the intervening years have transformed it almost beyond recognition.

But by then, after a lifetime of endeavour and achievement that deserves to be called heroic, Abdel-Aziz had become too old and tired to know quite how to handle all the money: that was a task his sons would have to learn. By bringing peace and unity to a land that had known none of either for many centuries and bequeathing to his sons and his son's sons a flourishing and stable Kingdom, Abdel-Aziz had already bridged the forbidding gulf between the old Arabia and the new. It is thanks to that singular triumph that his successors to-day, 25 years on, are able to grapple so successfully with a fate for the contemporary House of Saud that its founding father could not have dreamed of—as the political ringmaster of the Middle East and the virtual oilmaster of the world.

The traditional life-style of the bedouin, or desert nomads, is undergoing gentle change. Education, medical care and modern transport are among the lures—particularly for the younger generation—of the settled community. But there remains a hard core to preserve links with the old ways.

The people of the desert

FOR THOSE brought up on *Lawrence of Arabia*, a visit to a bedouin tent is still a romantic experience. The utter silence and sameness of desert is broken only, by the tiny sign of human existence, the black line which resolves, as one approaches, into a long, low tent. I recently sat at a Rualla tent in northern Arabia and watched the old grandmother, her face decorated with blue tattoos, spinning wool from the flocks on a small wood spindle. We drank sweet tea from glass cups and looked around inside the tent. "There is nothing really to see," they said, "just a typical simple bedu home." Their few belongings were stored in brightly coloured enamel tin trunks, their bedding folded and neatly piled.

This group was still nomadic; their belongings were kept to a minimum and they could move at no notice. They had arrived there a few days ago from Jordan where they had spent the summer. They came down in a couple of trucks, the flocks in one, the family and tent in another. As we sat and talked, some relatives called in from a distant tent, driving over by pick-up and immediately finding our host's tent in its fold in the hills. Yes, they had travelled by camel when they were boys, but those days were gone, pick-ups were far better.

At another tent in central Nejd I saw, perhaps, a more typical bedouin life-style. The tent was pitched close by a little mud-built village and now was never moved. The owner's flocks grazed with those of the permanent villagers and it seemed that he was rapidly becoming one of them. By the coffee hearth the brass pots were ranged, and a camel saddle provided an arm-rest. "No, they had not kept camels for years now," it was just a piece of furniture. The truck outside was their means of transport.

Their women no longer wove on the long, narrow ground loom on which tent sections were made. They did have a sewing machine, however, and made their own dresses. When I left I asked how I might find them again, perhaps send them a card. One of the young women seized a pencel and paper and wrote the address of the village, and of her friend's house, in a clear, well-formed hand. The skill was unexpected, but perhaps not, to-day, so very rare after all.

We called back a few days later to thank her and offer some sweets. She was gone, they said. She had had an accident and been taken to the clinic, beyond the mountain. We followed, a bumpy 20 km., and found a very simple clinic in an old mining camp. Her wound had been patched and she was well. She was also fortunate. For the nomadic bedouin an injury can spell disaster; as the nearest clinic may not be a handy 20 km. but nearer 200 km. away, for this is a vast country and in places virtually uninhabited.

Comforts

The desert bedouin have a better chance to-day than they ever had of obtaining some schooling, of reaching medical care. Every camp that I have seen now has a pick-up truck. Many have a water tanker as well and so they are free of the great fear in the desert, lack of water. It is possible now to take a sick person to a clinic, though distances may make them too late and mortality in the desert, especially among small children, is still very high. There are a few comforts in the tents, too, a paraffin stove and lamp, tinned foods to eke out their sparse meals, binoculars and a compass to help on the myriad tracks carved by the trucks in the past four or five years. Even, occasionally, a cold box.

It is schooling, rather than the desire for extra comforts, which is most likely to persuade a family to pitch its tent near a village or town and keep it there. One section of the family may still go away for part of the year with the flocks, but some stay, move first to a hut built of tins, then to a mud or breeze-block house. Very often the tent will still stand beside the hut, or in the courtyard of the house. The options are still open.

A fascinating study of this period of transition in the life of Saudi Arabia's bedouin was published last year by a Japanese researcher who spent two years visiting the same village near Jeddah. The book, *Bedouin Village*, is by Mrs. Motoko Katakura. She found that the villagers kept their links with their nomadic relatives; that some of them moved to the desert from time to time; that some gave up village life completely and went back to the desert, while some had moved on to the city and abandoned completely their previous existence.

Education was the magnet which had drawn most of them to the village, and all their boys and young men could read, while many of their girls were in school, too. It was her offer to teach the girls and women of the village to read which gained the author acceptance there.

While many bedouin families are taking the gradual route to settlement, living in a tent beside town or village, slowly moving in, many others seem just as willing to make a clean break, to move directly into the competitive, twentieth-century life of the big cities. It seems to be largely the young men who make such a move. They find a job through a member of their own tribe already there (employment still goes largely by tribal connection), or they take up truck or taxi driving. For the freedom-loving bedouin a taxi is the nearest thing the city offers to the independence of his camel herding days.

Once the young man is established he brings his wife and children, or his sisters if he has no wife, to look after him. In this method of settlement the old people are almost always left alone in the desert. The transition to the city is too radical for them to make. They cling to their old way of life and are left to a lonely old age.

Exodus

That the exodus from the desert is a real and powerful factor of life in Saudi Arabia is certain. Just how fast and how far it will go is not, as yet, so clearly determined. A census of a nomadic population is notoriously difficult to make and perhaps nearly impossible to make accurately (the officials involved would not, for one thing, be allowed into the tents actually to count women and children; some bedouin would count their girl children, some would not, and so on). Official figures give a bedouin population of 600,000 in Saudi Arabia (but how do they count those, such as my first host, who spend part of the year in Jordan, Syria or Iraq?), and sample surveys have shown a net decrease of 2 per cent. per annum.

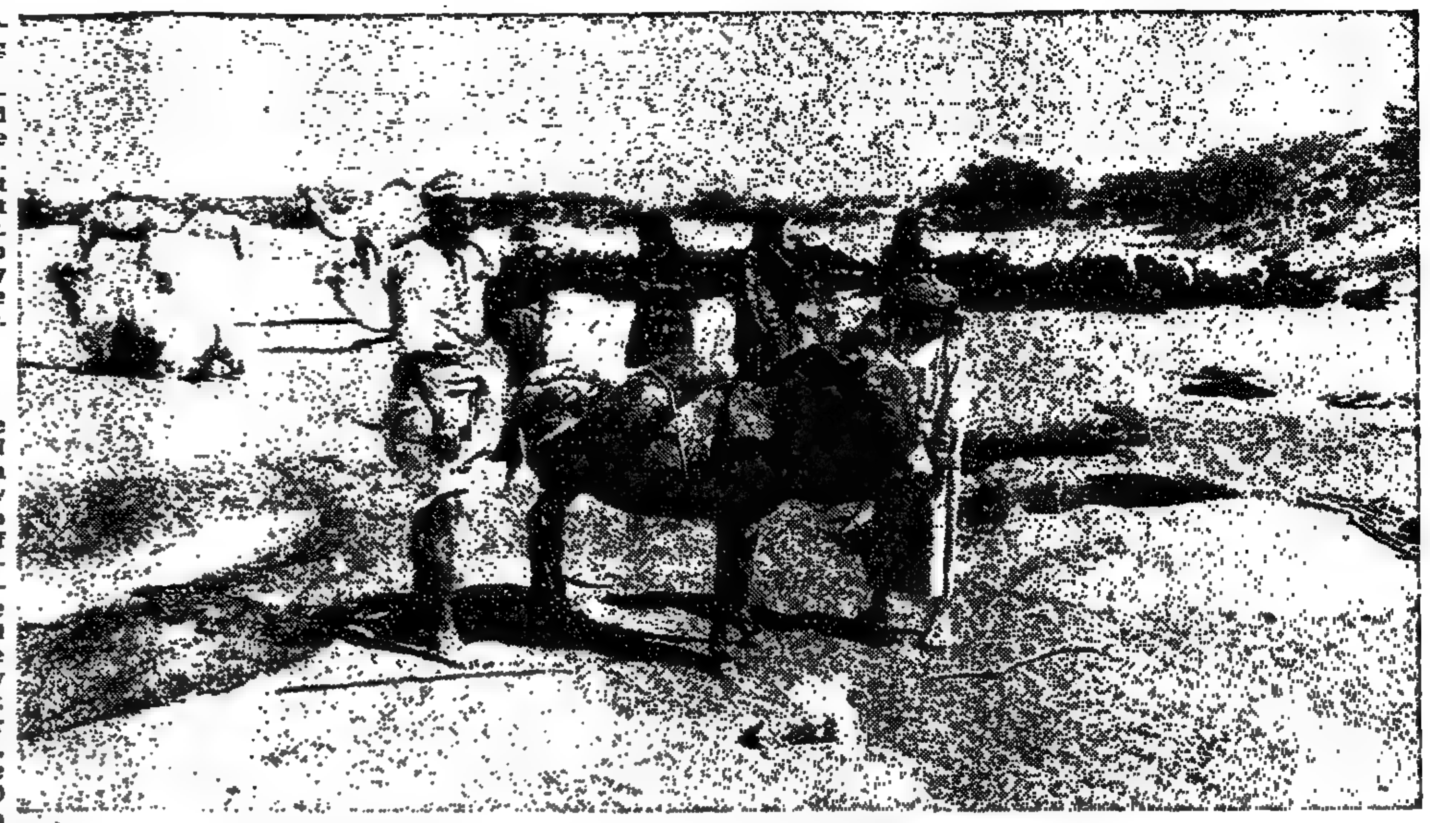
Theoretically this should mean that the bedouin will disappear from the deserts of Arabia in one generation, and many observers and Government officials expect that this will be the case. Some researchers who have lived with the bedouin in recent years, however, report (for example, Donald P. Cole in *Nomads of the Nomads*) that many are determined to maintain their life style. Traditionally it was the bedouin who failed who chose to settle, and Mrs. Katakura remarked that most of those in her village seemed not to have been too successful as nomads. It may be that many of those now left in the deserts are a competent, content hard core who are happy to continue in their spartan but independent existence.

The Saudi State has, from its early years, shown a marked interest in settling the bedouin. Government schemes were first launched by King Abdel-Aziz who founded numerous *hijra*, para-military settlements for the *Ikhwan*, the fierce bedouin fighters who bore the brunt of his wars to unify the penisula. From those early days until recent times the concept of bedouin settlement was tied inextricably to that of agriculture. Most recent venture of this kind was the huge settlement project of Haradh, launched by the Government in the early 1970s. The bedouin, however, have no interest in agriculture, which by and large they regard as a degrading pastime. Left to their own devices they may cultivate a little berseem; pressed into it they fade away. The Haradh project succeeded as agriculture but failed to attract bedouin; the hijra failed agriculturally but succeeded in producing tough military units.

Military matters are as attractive to the bedouin as agriculture is repellent to them. To-day their major contribution to the state, apart from their role as pastoralists, is in the armed forces and specifically in the National Guard. This second army, originally founded to guard the Saud family and maintain peace in the land, is now armed and trained to second the State armed forces in case of threat on the frontiers. It is manned entirely by units from the tribes and is headed by Prince Abdullah, second deputy prime minister and son of King Abdel-Aziz and a Shammar bedouin girl. Its bedouin troops are totally loyal to the Saud dynasty and completely content with their career, handling with aplomb the most modern of vehicles and missiles.

The income from their service in the National Guard, both in regular units and the reserves, is a major factor in the bedouin economy, keeping tens of thousands of families in comfort. Animal husbandry can barely produce a living wage to-day and the bedouin are obliged to supplement it as best they may. Official subsidies and handouts, gifts from sheikhs and princes and their National Guard salaries, have produced a higher standard of living than perhaps has ever before been enjoyed in the desert. However, the gap between their income and that of the townsmen is increasing yet more rapidly, and will ensure for the time being a continuing drift from the desert to the town of the young and ambitious eager to make their fortune.

Gillian James



Characters in a scene which has changed little over the centuries.

" SAUDI CENTER " is one of the fastest growing private sector companies in the Kingdom. It firmly believes in the dynamic development of the country and is committed to investing in projects that do not simply have an immediate impact financially but an ongoing function in the technological and social development of the Kingdom and its neighbouring countries.

Its prime concept for achievement is governed by strong beliefs in the old values, in combination with an outward attitude towards progress. It is keen on long-term partnership associations with local as well as overseas groups that share in the same principles.

Like so many other organisations in Saudi Arabia, it is a young group both in terms of its own age as well as in terms of the average age of its key personnel.

Through very careful planning, Saudi Center has created a solid manpower base by steadily recruiting highly qualified young men in its efforts to establish an important nucleus of people upon whose combined skills it has relied for its achievements thus far and bases its hopes for the future. In essence, the Group's outlook for growth is supported by the knowledge that it is managed by a team that claims an inherent balance of technocrats, entrepreneurs and experienced administrators.

The following is a brief outline of the background of each company within the Saudi Center Group:

SAUDI INVESTMENT AND DEVELOPMENT CENTER

This is the leading company within the group and its primary function is that of a holding company.

Head Office
P.O. Box 2220, Riyadh
Telex: 20413 CENTER SJ

Jeddah Office
P.O. Box 3396, Jeddah
Telex: 40260 CENTER SJ

LSTCO

Land Sea Transport Company (LSTCO) was established in the early part of 1976—at the height of congestion at the Port of Jeddah—to assist the Port Authority in a swift and drastic programme to clear the Port.

The Company is an accomplished port development, port management and stevedoring operator employing some 1,500 people with a turnover to date of S.R.260 million.

LSTCO has made phenomenal strides to keep up with the targets of the Port Authority. From the date of signing the contract with the Port it managed to develop an entire Port Area consisting of a causeway, pierhead and marshalling yard, and charter and re-equip six LST's all within a period of three months. Finally, it met its target of discharging 1 million tons within its first year of operations and has thus far handled over 1.5 million metric tons (at times reaching a daily output of 7,200 metric tons).

All this could not have been achieved had it not been for the brilliant policies and full co-operation of the Port Authority Management. Furthermore, the Company is a success story in terms of smooth co-ordination between the different participants in the venture with the Saudi Group taking the lead in the overall management and administration, Kloster Rederi of Norway having charge of all maritime operations and K.N.E. of Korea providing the stevedoring. The records established by LSTCO can be attributed mostly to the close relationship and understanding that has existed between the participants in this multinational group.

Address: P.O. Box 5791, Jeddah.
Tel: 58396
Telex: 40260 CENTER SJ

SAUDI CENTER FOR TRADING AND CONTRACTING

The Company has expanded rapidly in the last two years through self development and has attained a fine reputation in civil engineering works, residential building and industrial construction. Currently it is handling S.R.100 million worth of contracts consisting of residential estate developments, a civil engineering contract for the Saline Water Conversion Corporation and a Palace in Riyadh.

Having established a fine operational team of experienced engineers, some of whom have a 20 year involvement in construction within the Kingdom, it now plans to further its field of activities by means of joint ventures with technologically advanced companies from overseas.

Address: P.O. Box 3396, Jeddah.
Tel: 50395 & 50929
Telex: 40260 CENTER SJ

ALTHARA

Althara is a joint venture between Saudi Trading and Contracting Center and Soil Testing Services Inc. of U.S.A. It offers a comprehensive service in geotechnical engineering, including field exploration and testing, site reconnaissance, laboratory testing, engineering design, geotechnical instrumentation, quality control and inspection. It also provides testing of construction materials during construction (including concrete, steel, bituminous mixtures etc.).

Althara is currently involved in providing geotechnical services for the second phase of the Jeddah International Airport project and a high rise building for the National Commercial Bank in Jeddah. Soil-Testing Services Inc. was the soil consultant for part of the construction project for the King Faisal Hospital in Riyadh.

Address: P.O. Box 3396, Jeddah.
Tel: 58395 & 50929
Telex: 40260 CENTER SJ

SGS—SAUDI ARABIA LIMITED

SGS—Saudi Arabia Limited is a joint venture between Saudi Investment and Development Center and Société Générale de Surveillance, the world's largest control and inspection organisation.

Its principal activity is to offer a wide range of quantity and quality checks and related services, and oversee all or any part of commercial transactions and operations connected with the buying, selling, trading and moving of raw materials, commodities, industrial equipment and consumer goods.

SGS—Saudi Arabia Ltd. is also able to offer logistical support services designed to aid the movement of goods safely and efficiently from one point to another avoiding complications resulting from miscalculations, production snags or post delivery problems.

SGS—Saudi Arabia Ltd. through Société Générale de Surveillance is represented in more than 150 countries, by 90 affiliated companies.

Address: P.O. Box 3125, Jeddah
Tel: 50181
Telex: 40260 CENTER SJ

SAUDI INTERNATIONAL CENTER

Saudi International Center is engaged in new project development, specialised purchasing activities, and consultancy.

Project development work includes the conducting of market surveys and feasibility studies, searching for suitable joint venture partners, negotiating working arrangements between local and foreign partners, and mobilising local support and international logistical movements required to initiate the projects.

Procurement is conducted through offices in New York and Paris. Services offered encompass handling in the country of origin, export formalities, selection of carrier, clearance through Saudi customs, and local delivery to customer's site.

Finally, SIC offers a wide range of consultancy services designed to assist foreign firms to do business in Saudi Arabia. It suggests agency, branch and joint venture relationships suitable to the needs of the foreign company, arranges office, housing and catering facilities and advises concerning local registration requirements.

Address: P.O. Box 3396, Jeddah
Tel: 58396
Telex: 40260 CENTER SJ

AMOS

Arabian Maintenance and Operating Services Company Limited (AMOS) is a Saudi Arabian limited liability company under formation to be owned 60% by Saudi Investment and Development Center and 40% by a high technology Western corporation. AMOS' functions include (1) management services for the operation and maintenance of desalination and other water treatment plants, power plants and other continuous process plants, (2) operation and maintenance of water wells, both surface and subsurface, and (3) consultancy activities relative to ground water studies and projects.

AMOS plans to develop a management training center in Jeddah for the operation and maintenance of desalination, power and other continuous process operations.

Address: P.O. Box 3396, Jeddah
Tel: 58396
Telex: 40260 CENTER SJ

AL KAWTHER

Al Kawther is a Saudi Arabian limited liability company which has just been formed. It will be based in Saudi Arabia, and will operate in most of the Arab countries of the Middle East.

Al Kawther's activities include the design, assembly and installation of water treatment systems, including the desalination of sea water as well as the processing of brackish well waters. It is contemplated that Al Kawther will ultimately establish its own research and development organisation specialising in water treatment technology adapted to Middle East conditions.

Head office: P.O. Box 3396, Jeddah
Tel: 58396
Telex: 40260 CENTER SJ

RASHA SHIPPING

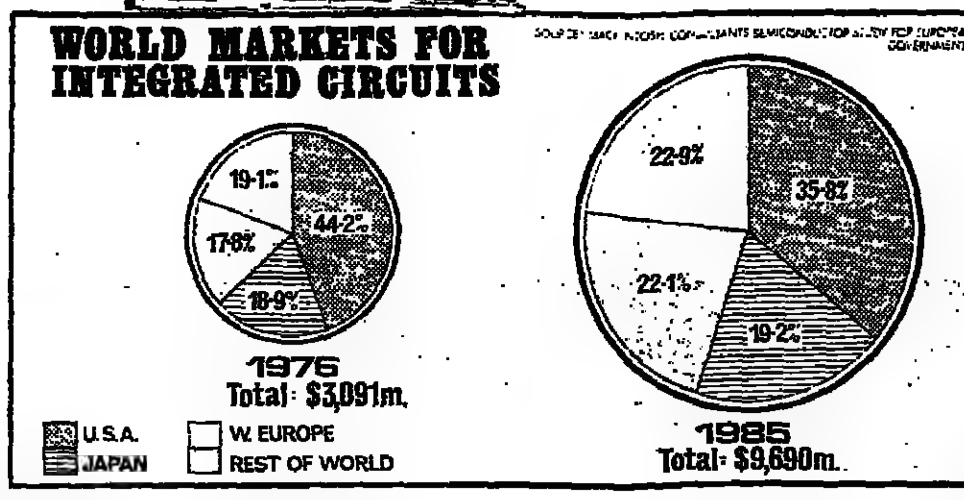
RASHA is a shipping and customs clearance agency with highly experienced port personnel servicing the needs of a number of major institutions including Mobil Oil, Fagioli and others. It is well positioned and staffed to undertake additional business including transportation for on-site deliveries to anywhere within the Kingdom.

Address: P.O. Box 5246, Jeddah
Tel: 48145
Telex: 40260 CENTER SJ

ELECTRONIC MICRO-COMPONENTS

BY MAX WILKINSON

Chips are down in Europe



EUROPEAN GOVERNMENTS re now forging their policies or what will probably be the ast phase of an extra-ordinary evolution in electronic comonents. It has already produced computer the size of a postage tamp and will shortly enable ransistors to be packed more ensely than elements of the uman brain.

The revolution is based on e ability of component makers fit an ever increasing number f inter-connected transistors n to a single wafer of silicon. ince 1961, when only a single ansistor was implanted on each licon "chip," the density of omponents packed into each evice has doubled every year. s a result, whole roomfuls of ectronics have been reduced to omething which looks like a apflake with wires attached to

In the next few years the reuctions in size will be even ore impressive. Mr. Les Hogan, ce-president of Fairchild, the S. semiconductor company, pects the limit to be reached round 1985 with about 6m. ansistors on a single chip of licon a few centimetres quare.

Such a chip would contain as any elements as the world's rgest present day computer. lthough it is unlikely that signers would wish to put ch a huge computer on a ngle component, it is clear at integrated circuits in the xt decade will themselves beme highly complicated sysms. Already, computer emory chips are being made th more than 100,000 storage ements per chip. And in the t three years the price per ement of memory has fallen thousandfold. The price of a mputer switch is now 10,000 nes cheaper than what it was years ago.

The prospect is worrying for equipment companies and governments in Europe, because nobody is yet clear about the *full consequences of such a high* degree of integration. The only certainty is that a very high proportion of the microscopic circuits will be made in the U.S. or Japan. At present Europe imports about 75 to 80 per cent. *of its integrated circuits.* By contrast, Japan imports only 30 per cent.

Such chips, costing only tens of dollars, will make obsolete much of the assembly work which has been a major part of equipment manufacturers' business. It may be that the equip*ment makers will be able to use* the new super-components to *design systems of hitherto un*dreamed complexity.

Lower grade

On the other hand, the component makers may themselves become systems designers because in some applications the greatest brain power will be needed for the arrangement of microscopic transistors into patterns on their chips. Where this happens, the equipment makers *may be reduced to lower grade* activities like soldering, making tin boxes and the fitting of plugs and sockets.

Between these extremes, a variety of different patterns will emerge which cannot easily be forseen. It is certain however that as packing densities in*crease at least tenfold in the* next five years, the computer, telecommunications and other parts of the electronics industry will be radically altered.

One obvious consequence is that designers in companies like *the General Electric Company* (GEC) and Siemens of Germany will have to become intimately acquainted with the techniques for making silicon chips. They will need to be able to design special *circuits for their own* particular purposes and to know *how* standard mass-produced circuits can be modified.

For these reasons the govern*ments of all the major countries* of Europe are agreed that they must support their microelectronics industries at least to prevent them from trailing *further behind the American* and Japanese advance. The *British Government is expected* to announce shortly the details of its next support scheme for electronic components. It is generally estimated that at least £80m., and probably £100m. of total investment will be needed *in the next five years to maintain even a limited presence in the industry.* At least half of this will have to be provided by the Government. A programme of all-out attack on mass-produced American components would cost some £500m. But this would have the slimmest chance of success, because the U.K. home market is only about 2.5 *per cent. of the total world sales* of $3.5bn. (1977). Mackintosh Consultants expect the world market to increase to nearly $10bn. by 1985, but it is very uncertain how much of this expansion can be exploited by European companies.

Even taken as a whole, West Europe accounts for only about 20 per cent. of the total world market, about equal to that of Japan and half the size of the American market. Within *Europe, nationalistic policies* and the geographically scattered production centres have proved to be an insuperable barrier against the formation of a truly European component industry.

By contrast, the semiconductor companies in the U.S. are concentrated in a relatively small area called "Silicon Valley" *south of San* Francisco, from which they serve a unified home market. In Japan, the Government is pouring in a vast amount of *money, estimated at about* £100m. a year, to support research and development and to secure a co-ordinated national effort.

The U.K. Government support has been running at *about £2m. a year. An increased* level of support of probably £8m. a year now being planned in the U.K. is still likely to attract the epithet: "too little and too late."

On the other hand, a more *lavish handout to the industry* could prove a complete waste of money, since there is no chance that any of the British-owned companies making semiconductors could compete with the Americans across a wide range of standard products. U.K. sales of semiconductors are less than £20m. a year, about 1 per cent. of world output.

The Government therefore *faces a difficult dilemma. On the* one hand it must ensure that the U.K. maintains an up to date capability for making at least special purpose circuits. For if a complete computer can be etched on to a few wafers, it may be essential that they can be made in Britain.

*On the other hand the Govern*ment faces a great deal of scepticism about whether British manufacturers can be competitive even for a limited range of special circuits against U.S. companies with ten times the production capacity. This scepticism is grounded on the fact that the *economics of the integrated cir*cuit industry are highly sensitive to the volume of production. One manufacturer estimates that every time the volume of production is doubled, the price is reduced by 30 per cent.

Long production runs allow fine tuning of the process, which is vitally important where up to 80 per cent. of the circuits pro*duced may have to be thrown* away after testing. Many suc*cessful manufacturers* argue, therefore, that it is essential to have some high volume standard products to absorb overheads. They say that any manufacturer which concentrates only on low volume special cir*cuits is unlikely to be profitable.*

The British Government's strategy is therefore to seek a compromise. It has identified four separate categories of integrated circuits:

1—Standard mass-produced *components like computer* memories.

2—Standard components with special performance characteristics.

3 — Standard components specific to a particular industry.

4 — *Special circuits designed* for a particular customer.

High volume

It has been agreed that the U.K. owned companies in the field, Plessey, Ferranti and the General Electric Company should concentrate on the last *three categories. They will try* to gain high volume sales with *circuits in the third group,* for example with components for the motor car or telecommunications industries. It is thought that there may be specifically European applications which could provide high volumes for a U.K. manufacturer but would not interest the Americans. One *example might be in special* circuits for telecommunications like the Post Office's System X. Another could be in circuits for television receivers which operate on different standards *in the U.S. and Europe.*

Competition in the market for *components which are standard* throughout the world will probably be left to the multinationals.

To promote a U.K. capability in this field, the Government would be most likely to give aid to Mullard, the Philips subsidiary, or to ITT which has a *factory in Kent. It is already* making advanced computer memories with 16,000 cells on each chip and is developing a memory with 64,000 elements.

The Government's general strategy is based on the idea that progress will depend very largely on the U.K.'s ability to *attract and hold able designers* and technologists. It is argued that a great deal of the exchange of technology in the U.S. and elsewhere takes place informally as the best people change jobs. This is part of the reason why it is thought that multinationals with re*search departments in the U.K.* should be considered candidates *for Government subsidy.*

The British Government's strategy differs in important respects from those of the main competitors in Europe. France and Germany. It is, however recognised in all countries that *the chance of beating the* Americans in the market for *standard components is slim.*

The German Government is spending some £75m. in its four year support programme running from 1974 to 1978. Total investment, including contribu*tions from industry is estimated* at around £150m. in the period. *No decision has been taken on* funding after 1978, but it is likely that support will have to continue at a considerably higher level. The major manufacturer is Siemens with AEG as its main German-owned competitor.

Support for Siemens is likely *to be the lynch pin of German* policies, since Siemens has the financial strength to undertake the rapidly increasing capital costs and the ability to buy further American companies.

The strategy of buying American technology has already been adopted by Philips of Holland with its acquisition of Signetics. The French Government on the other hand appears to favour a joint venture. This idea appears to underly the offer of £70m. to Thomson CSF and La Radiotechnique Compelec (RTC), a Philips subsidiary, on condition that they sign a co-operation agreement with a U.S. *manufacturer.*

Meanwhile the European Commission is making a renewed effort to promote co-operation across national boundaries. Hopes of a comprehensive pan-European pro*gramme failed last year because* governments, particularly the *Germans, were not prepared to* make their suppport conditional upon companies co-operating with a European scheme.

The steeply increasing capital and development costs in the integrated circuit industry may perhaps give a new impetus to*wards international co-opera*tion. The next generation of circuits will require machines which can bombard silicon chips directly with electron beams. This method of forming patterns of transistors will replace the *present etching* process which uses masks similar *to those in printing.* Electron beam lithography will be needed to achieve the much higher densities of the future.

Fairchild estimates that the machinery for making chips will be 20 times more expensive by 1982.

This enormously increased "entry fee" will certainly be afforded by Siemens and the *German Government, and prob*ably by the French. But the high capital costs will make it more and more absurd for the U.K. effort to be split between three relatively small plants. Some sort of merger would seem highly desirable if not essential; but for the moment the Govern*ment appears reluctant to renew* its unsuccessful efforts to push the companies together.

However GEC is very sceptical whether such a move would be desirable. Its strategy so far has been to try to keep abreast of developments by having a limited production *of integrated circuits, but to buy* the bulk of components it needs from the cheapest source, which is often America.

Letters to the Editor

Nationalised industries

m the President, il Users' Association.

ir,—The debate about the itrol of nationalised indus-s, contrary to Mr. Cockell's gestion (April 12), has not n on a meaningless basis. gets of return may not be icient in themselves as yard-ks of performance; but they an essential in any system key indicators.

*ivestment by Post Office Tele*munications recently has *n nudging on £1bn. yearly;* efore, some indication of the *irn on assets earned by tele*munications is necessary for Government and the Post e to know whether the ex-diture is worthwhile. For s the target of 2 per cent. irn on turnover is sensible over 70 per cent. of costs for labour. It is very much he interests of users that the al business has some cash and with which it can experi-it by introducing new ser-s, and take risks in market-the profit margin also gives e flexibility for the timing rice increases, and most im-tant, ensures that those on scale of 1975 will not be lated. Additionally, a profit et is good for motivation, when hit, good for morale.

many areas of the public or, particularly in the Post e, competition is not always ncilable with *social objec*s. It is doubtful if the public ld accept the withdrawal of al and telephone services n rural areas, which would a likely consequence of lishing the monopolies. In e circumstances we have to to devise a system of con-led monopoly by which iopolists are subject to non-ket disciplines. These have e devised with care since if are too restrictive, manage-it are denied flexibility, iagerial functions become iced to bureaucratic ones and consequent loss of job satis-ion will result in the loss of quality management. Thus idea of a fairly rigid system five year plans and pricing ed by Mr. Cockell is likely be counterproductive if oted.

ne of the main criticisms in NEDO *study of the present* em of control for the *onalised industries was the* th of time required to obtain *ement from sponsoring* istries to major policy deci-s. *If the Parliamentary sys*-was added to the present *em in the way Mr. Cockell* gests, the decision making ess *would be further* nuated.

e solution to the problem controlling nationalised in-ries, I suggest, lies in ex-ing the powers and improv-the professionalism of the tory users councils. If r role is expanded to take a "*consumer audit*" func-with the right to qualify annual reports of the indus-, management will be left sufficient freedom to plan, e subject to a powerful k which will be neither dis-ive nor counterproductive. ould also leave Parliament to concentrate on strategic es, rather than involve it he *detail about investment* specific pricing issues with h it is ill equipped to deal. oys.

ackville Street, W.1.

No better off

From the prospective Liberal Parliamentary candidate for Mid-Sussex

Sir,—Your usual post-Budget tax tables (April 12) showing *the theoretical tax savings* at varying salary levels is most mis-*leading particularly in the range* of middle management.

The man on £10,000 in the current tax year would not have been earning that figure last year. The average man in that range would have substantial mortgage outgoings together with pension *contributions* and *life* assurance premiums.

If we rework your example for a married man without children who has *£1,000 per annum in* mortgage interest and other allowable payments and whose salary of £9,000, last year, was *increased by 10 per cent. within* Government guidelines, we get the following result.

	1977-78 £	1978-79 £
Gross salary	9,000	9,900
Income tax ...	2,258	2,458.50
Net salary ...	6,742	7,441.50

The result, for this individual, is that his gross salary has risen *by 10 per cent.,* his net salary also by 10 per cent. and the retail price index by 10 per cent. He is, therefore, no better off as a *result of Mr. Healey's Budget.*

By his rigid conservatism in *rejecting Liberal proposals* for a switch from direct to indirect taxation (to which even the Conservatives seem now to be con*verted) Mr. Healey has thrown* away a golden opportunity to remedy the situation whereby over 80 per cent. of Government revenue is obtained from personal income tax. High tax on earnings kills incentive and obviates any possibility of savings and therein lies much of the cause of our present economic ills.

Jack Campbell.
Rosemary Avenue, Steyning, West Sussex.

Unallocated surplus

From the Economic Adviser, Burge and Co.

Sir,—Once again I see that the balancing item of +£2.6bn. for *1977 is published without any* reference whatsoever to its significance (*Financial Statement* and Budget Report 1978-79 Table 2). *I find this omission* astounding.

It *means that* the Bank of England is holding £2.6bn. for *1977* which ultimately will be allocated to U.K. capital or *revenue transactions.* Surely a little helpful comment in the *Budget Statement is in order?*

If the balancing item is allocated to revenue account it means that either exports in 1977 were under-valued or imports over-valued. In either event the reported trade deficit of £35m. is replaced by a thumping good surplus. If it is allocated to capital account then the levels of domestic savings, to fund the public sector borrowing requirement, are significantly lower than *reported.*

It is impossible for outsiders to do more than offer guidelines and ask questions which are meant to be *helpful to the authorities con*cerned. My own efforts have illustrated anomalies in the trade figures which I believe show import values have been over-recorded by perhaps £1bn.

My point is, because of the omitted explanation, many economists are unable to record the real magnitude of the 1977 U.K. recovery (Organisation for Economic Co-operation and Development experts have also made this point in the Statistical Users Conference Report, Page 101). The overseas trade account is most sensitive in determining sterling exchange rates which in turn are of major significance in determining U.K. inflation rates. Therefore the task of economic recovery is made more difficult by omitting any explanation of this very important unallocated surplus.

A. G. Horsnall.
25, Worship Street, E.C.2.

Unsocial work

From Mr. J. Riley.

Sir,—Is there not a good case for employers and unions to get together to negotiate a productivity deal with the Chancellor of the Exchequer to compensate both firms for their financial loss, and certain employees for the unsocial work involved, in calculating the effects of, and later explaining, the Social Security Pensions Act 1975, taxation changes, code number alterations, child benefit changes etc. etc. to befuddled and sometimes irate workers? Does the Chancellor realise that many people board-up their letterboxes and go into hibernation for the winter, and that these changes in legislation fall like a bomb-shell upon them in week 1 of the tax year?

Jack Riley.
19, Canterbury Avenue, Lancaster, Lancs.

Grants for insulation

From the Managing Director, Drayton Controls (Engineering).

Sir,—I see that in enthusing over the proposed grants scheme for insulation in private dwellings, the Prime Minister draws on his own experience. He says that he insulated the loft in his house, and his bedroom is now five degrees warmer. What a pity he did not fit themostatic radiator valves upstairs to prevent this temperature rise: then he would have saved the country some fuel and himself some money!

M. M. Brew.
West Drayton, Middlesex.

Incentive schemes

From the Chairman, Appleton Incentive Techniques.

Sir,—The Chancellor claims to recognise the need to restore the *incentive to work. The changes* he proposes are minimal and benefit *most in percentage terms* those at the bottom end of the *wages* ladder, whereas it is widely believed the greatest encouragement is needed at the middle and higher end. Apparently the same principle is to be extended into profit sharing schemes where a ceiling of £500 is to be imposed on the annual allocation to any one individual.

We must therefore look elsewhere for incentives for executives. Many successful companies adopted share option and share incentive schemes in the early 1970s from which this Chancellor removed the tax advantage in the Finance Act 1974. Presumably it is politically impossible for Mr. Healey to restore fully the incentives that these schemes provide, but it would be interesting to hear from the Liberals and the Conservatives whether they would be in favour of doing so.

Now is the time when interested companies should be making representations to the political parties and their own trade associations in this regard.

S. D. Appleton.
18a, Burgh Heath Road, Epsom.

Reduced rates

From the Leader, Southampton City Council.

Sir,—While I was pleased to see that the chief executive of Winchester City Council stated (April 11) that Southampton City Council had also reduced its rate for the current year he did not mention that we made a similar reduction last year when rates nationally increased on average by more than 10 per cent. I feel certain that few if any other authorities in the country have been able to reduce their rate twice in the past two difficult years.

This does not, however, tell the full story. By careful scrutiny of services and good management, economies in excess of £1m. have been made and the city council's capital debt reduced by about the same amount since we gained control from the previous Socialist administration. And we have rightly passed the *benefit of the savings* achieved to the ratepayers.

Not only has this been accomplished without adverse effect on essential services but we have secured necessary growth of 7.5 per cent. over Government guidelines during the same period. In essence we have cut back and moved forward at the same time. Positive proof that progress with economy is possible.

Norman A. Best.
Members' Room, Civic Centre, Southampton, Hants.

Industrial training

From the Group Services Manager, Aylesbury Industrial Group Training Centre.

Sir,—Mr. W. Whalley's reaction (April 7) to the criticism by Mr. W. E. G. Woods, of the proposal to move initial craft training *into our schools surely* cannot be regarded as serious *comment on what is an issue of* national concern. The point of Mr. Wood's *letter was to en*courage the belief that industrial *training was properly the pre*rogative of industry itself and *not that of the education system,* which after all has yet to demonstrate its general competence in instilling basic literacy and numeracy into our youth. The teaching of domestic self sufficiency in the class room is not under attack and long may it continue.

From his final paragraph I am also left to wonder whether Mr *Whalley is aware of the enor*mous annual cost to the nation of *industrial accidents.* Indeed, the Royal Society for the Prevention of Accidents might have something to say on accidents in the home by well intentioned DIY enthusiasts!

B. P. North.
Gatehouse Close, Aylesbury, Bucks.

To-day's Events

GENERAL

Mr. Harold Brown, U.S. Defence Secretary, holds London talks on neutron bomb with Prime Minister and *Mr. Frederick Mulley, Defence* Minister.

*Dr. David Owen, Foreign Secre*tary, and Mr. Cyrus Vance, U.S. *Secretary of State, due to arrive* in Rhodesia following Friday talks *in Dar es Salaam with Mr. Joshua* Nkomo and Mr. Robert Mugabe, Patriotic Front leaders, and Sunday discussions in South Africa with Mr. Pik Botha, its Foreign Minister.

EEC Finance Ministers meet, Luxembourg.

Scottish TUC conference opens, Aberdeen (until April 21).

Law of the Sea Conference continues, Geneva.

*Nominations close for by-elec*tions at Epsom and Ewell and at Wycombe (polling day in both constituencies is April 27).

*Sixth World Conference of Re*tailers is opened at Grosvenor House, W.1., by Mr. Edmund Dell, Trade Secretary, together with Mr. Joseph Godber MP, chairman, Retail Consortium, and Mr. Herbert E. Strawbridge, co-chairman, International Committee, National Retail Merchants' Association of New York.

European League for Economic Co-operation dinner, Mansion House, E.C.4.

Combined three-day meeting of European Nuclear Medicine Society and British Nuclear Medicine Society opens at Imperial College, S.W.7.

Institute of Practitioners in Advertising annual report.

Conference of British and Polish coal mining and utilisation experts opens at Mining Research and Development Establishment, Bretby, Derbyshire (until April 20).

Plastic Industries Exhibition opens, Belle Vue, Manchester (until April 21).

PARLIAMENTARY BUSINESS

House of Commons. Conclusion of Budget debate. Second reading of Judicature (Northern Ireland) Bill.

House of Lords: Debates on problems of widows and on a review of the Children and Young Persons Act.

OFFICIAL STATISTICS

Retail sales (March, provisional)

COMPANY RESULTS

Blackwood Hodge (full year). Currys (full year).

COMPANY MEETINGS

See Week's Financial Diary on page 7.

COMPANY NEWS

William Collins changes borrowing structure

ACTION is being taken by William Collins and Sons (Holdings) to reduce its borrowings, which at December 25, 1977 showed a jump from £8.75m. to £14.5m. and were equal to 34 per cent. of capital employed.

In his annual statement Mr. W. J. Collins, chairman, reveals that the group has accepted an offer of a 12 year unsecured loan of £10m. from Finance Corporation for Industry. This will be used to reduce indebtedness to bankers, who have agreed the early repayment of a £6m. term loan 1980, and to the removal of their floating charge over the U.K. assets of the group.

The increase in borrowings came about primarily because of an increase in stocks, part of which was due to sales being lower than anticipated. Stocks at December 25 stood at £19.6m. against £15.3m. a year earlier, but the chairman says that steps are now being taken to reduce this level.

Group profits before tax in 1977 fell by 40 per cent. to £3.1m., reflecting the combined effect of lower than expected sales together with pressure on margins.

Sales in the first quarter of 1978 show a small increase on last year and looking ahead to the remainder of the year the chairman expects to see an improvement in both sales and profits.

The market for books in the U.K. is still difficult and prospects depend largely on an increase in consumer spending.

With an outstanding year behind it, the general trade publishing division is looking to another good year with a strong list of new titles. The chairman points out that this augurs well for Fontana Paperbacks which derives many of its best-selling titles from the group's hardback list.

In international markets Australia has got off to a good start, but Mr. Collins stresses that it is difficult to predict performance with any confidence against a background of depressed economic conditions which still prevail in most of the group's main markets. The final results expressed in sterling will also depend very much on the exchanges rate ruling at the end of December, 1978.

Looking beyond the immediate future, however, the chairman considers that the underlying growth prospects of the business are still strong.

Referring to the completion of the group's new complex at Bishopbriggs the chairman says that the group now has a strong base from which to develop and expand the manufacturing and distribution operations.

The accounts reveal that the group has a potential liability to deferred tax of £6.42m. (£5.83m.), which included £7.34m. (£6.64m.) in respect of accelerated capital allowances, and £4.27m. (£2.43m.) in respect of stock relief, partially offset by tax losses of £4.03m. (£2.31m.) and unrelieved ACT of £1.24m. (£1m.).

At March 16, 1978, Stoke Albany Trustees held 16.31 per cent. of the equity and Crossburn Trustees 16.02 per cent.

Meeting, Glasgow, May 4, at 12.30 p.m.

Bayer UK shows small growth

THOUGH SALES jumped 33 per cent. from £74.93m. to £98.82m. in 1977 for Bayer U.K., a subsidiary of Bayer AG, Germany, rising costs due to price inflation and overheads, retarded growth in taxable earnings to a marginal rise of £21,733 to £1,683,477.

There was also considerable increase in promotional expenditure, but the directors regard this as an investment from which the company will benefit in 1978, says Mr. John Webb, the managing director.

All nine divisions contributed to group profit with particularly good performances by the pharmaceuticals side, which introduced a new treatment for heart disease, and the Agrochem division.

Agrochem launched a new cereal fugacide with great success and this is expected to make a "tremendous contribution" to British farming and to the current year's results Mr. Webb says.

The new consumer product group, set up in January this year, initially to market suntan products and household pesticides in Britain, also holds promise for the group in 1978, he adds.

Tax for the year took £937,679 (£912,543) leaving a net balance lower at £728,798 (£749,201).

EQUITABLE LIFE

In the first quarter of 1978 new annual premium income of EQUITABLE LIFE ASSURANCE SOCIETY rose 69 per cent. over the corresponding period in 1977.

All classes of business have increased but with particular emphasis on retirement policies for the self employed and individual pension policies for executives and directors.

New annual premium income was £4.03m. (£2.38m.), new single premiums £1.69m. (£1.37m.) and new sums assured £48.3m. (£38.9m.).

Armitage Brothers advance

A SECOND half advance in pre-tax profits from £174,495 to £250,673 left Armitage Brothers, pet products manufacturer, with £454,000 for all 1977, compared with £408,000 for the corresponding period.

Before extraordinary items earnings per £1 share are given at 106.25p (102.75p) and after such items at 106.25p (97.02p). The net dividend is stepped up from 14.63p to 16.09p.

	1977 £000	1976 £000
Turnover	6,468	5,081
Trading profit	484	424
Interest	30	16
Profit before tax	454	408
Tax	30	†26
Extraordinary debit	—	22
Available	434	413
Final dividend	64	38
Retained	380	354

† Credit.

FT Share information Service

The following security has been added to the Share Information Service appearing in the Financial Times:—

Rohan Group (Section: Buildings).

Royal pays special bonus

A substantial increase in reversionary bonus rates for the three years ending December 31, 1977, is announced by Royal Insurance Group. The rate on the sum assured is maintained at £4.50 per cent. per annum, but the rate on attaching bonuses—the super bonus—is being increased by £2.60 per cent. per annum to £7.10 per cent.

Mr. Tony Baker, the chief actuary and life manager of Royal, reports that the current valuation has disclosed a surplus in excess of £80m., about twice that of three years ago. This illustrates the success of the investment approach adopted by the group and is an indication of its strength and prospects.

The effect of this change will be to add high bonuses to the policies that have been in force the longest, since they will have the largest attaching bonuses. The actuary obviously considers that this is the fairest method of distributing the profits, the longer the policy has been in force the more profit it is entitled to.

The super bonus rate is £1 per cent. higher than the interim value declared at the beginning of the year and the current interim rate is being kept at £1 per cent. lower. This means that effectively, investors with Royal are being paid a special bonus of £1 per cent. per annum for the last three years. Quotations for new business are using the lower rates.

Gibbons Dudley expects rise

Mr. Roger D. Turner, chairman of Gibbons Dudley, anticipates that profits for the current year will show a further advance, the second six months proving to be more profitable than the first.

He says in his annual statement that it is difficult to foresee any real improvement in the trading climate of the refractories division. Nevertheless, further losses at Gibbons Refractories are not expected and better results are anticipated. The building products side should in the second six months reflect the benefit that will arise from the new factory and results should show a further advance.

In the engineering division a shortening of the forward order book is causing some concern. However, the planned contract completions for the current year should provide similar results to those for 1977.

With an anticipated increase in industrial activity generally, the industrial estates division is looking to an increase in its profits. Capital expenditure is continuing at a high rate and therefore no investment income can be expected.

As reported on March 17, taxable profit for 1977 advanced from £3.89m. to £4.23m., on turnover of £51.76m. against £36.55m.

A divisional analysis of turnover and trading profits (£000s omitted) shows: refractories £12,753 (£11,652) and £445 (£1,036); building products £10,315 (£9,995) and £1,426 (£1,415); engineering £27,712 (£14,141) and £1,684 (£702); industrial estates £976 (£761) and £462 (£410); parent company profits £133 (£106).

On a current cost basis taxable profits are shown at £2.5m., after additional depreciation of £1.23m., cost of sales adjustment £0.64m., and gearing adjustment £0.15m.

Following an assessment of the deferred tax position which it is considered prudent to retain, £4.33m. has been released from deferred tax to reserve.

Capital expenditure incurred during the year amounted to £6.13m. and although working capital increased by £840,000 a strong liquid position was maintained. Capital expenditure sanctioned at December 31, 1977, totalled some £4.81m. (£5.83m.) in respect of which regional development grants of £714,000 are anticipated. Contracts placed against these sanctions at that date amounted to approximately £1.12m. (£2.84m.).

BOARD MEETINGS

The following companies have notified dates of Board meetings to the Stock Exchange. Such meetings are usually held for the purpose of considering dividends. Official indications are not available whether dividends concerned are interims or finals and the subdivisions shown below are based mainly on last year's timetable.

TO-DAY

Interims—Equity Income Trust.

Finals—Blackwood Hodge, Change Wares, Currys, Hoveringham, Jersey Electricity, London United Investments, Newarthill, Reed Executive, Revertex Chemicals, Rugby Portland Cement.

FUTURE DATES

Interims—

Beradin Rubber Estates	April 15
Long and Hambly	April 19
North Midland Construction	May 5
Wade Potteries	April 19

Finals—

Callender (George M.)	April 19
Canadian and Foreign Invest. Tst.	April 25
Coral Leisure	April 20
Debenhams	May 19
Hawker Siddeley	April 18
Miller (F.) (Textiles)	April 15
Royco	April 19
Spong	April 27
United Carriers	April 19

TALBEX

Talbex, the soap to hairdressing concern, has revealed that the private engineering group for which it has made a bid approach is closely linked to one of its major shareholding groups—the Iranian Investment Trust and Wobaco Trust, which have a 20 per cent. stake in Talbex.

Artec, the Bahamas based bank, was the engineering group concerned as well as acting as advisers to the Iranian Investment Trust and Wobaco. Consequently, these Middle East interests will not be voting at any forthcoming EGM, when Talbex is due to announce the bid terms.

Auditors qualify Law Land accounts

THE AUDITORS of the Law Land Company point out in their report that no provision has been made in the group's accounts to write down the value of property trading stocks in the U.K. and Australia.

The directors estimate that an open market valuation would show in the U.K. surpluses totalling £908,092 and deficits of £892,053, giving a net surplus of £16,039 over the aggregate cost of £5.71m.; and in Australia surpluses totalling £875,102 and deficits of £437,474, giving a net surplus of £434,628 over the aggregate cost of £4.04m.

The directors say that the situation is constantly changing and they are continuing the policies of including such properties in the balance sheet at the lower of cost and aggregate valuation.

In the auditors' opinion, to comply with current accounting practice, the property trading stocks at December 31, 1977, should be written down by £1.33m., the total of the two deficits. The result of this adjustment would be to reduce group reserves brought forward at January 1, 1977, by £1.89m. and to increase the net profit for the year by £558,734.

In 1977 the group incurred investment losses of £1.16m.—£0.37m. in Australia and £1m. in Belgium—and this was only just offset by trading profits of £1.29m. to leave the pre-tax balance sharply lower at £134,337 against £874,791.

Sir Henry Warner, chairman, says that the immediate outlook for the group continues to depend on the successful letting of properties whether empty or due for rent reviews. Progress continues to be made and since the year end new lettings have been negotiated with rents of £233,000 per annum—£153,000 in the U.K. and £80,000 in Belgium—only part of which will benefit the 1978 accounts.

Other negotiations are in hand and there is still good potential for increasing income.

Further progress has been made in dealing with the group's debt; the net short term position improved by over £2m., half of which reflects the rise in sterling. A Euro-dollar loan of £973,905 will be repaid in May. It is the Board's policy to take advantage of any reasonable opportunities to fund short-term debt by borrowing for longer terms.

Investment properties sold during the year realised a surplus of £1.2m. In selling properties it is the Board's policy to improve the portfolio as well as raise money for debt repayment.

In 1977 net rental income in the U.K. increased by £237,950, and in Belgium by £89,099; in Australia there was a fall of £21,796. The rise in U.K. trading profits is largely due to one transaction. Trading in properties should not be expected to contribute to profits in the U.K., on the same scale every year. In Australia, the estimate is far larger profits in 1978.

Property outgoings rose from £2.4m. to £3.01m. reflecting the completion of new buildings. Interest charges are lower but the amount chargeable against profits is much higher at £2.81m. against £1.88m. A further fall is likely in 1978 and the chairman feels that at least some of this should increase earnings.

● NEWS ANALYSIS—WILSON COMMITTEE EVIDENCE

Ode to an OTC

BY NICHOLAS COLCHESTER

M. J. H. Nightingale and Co., a small investment bank, claims in evidence to the Wilson Committee that an "over-the-counter market" (OTC) is needed to help plug the "equity gap"—the lack of entrepreneurial equity capital that has allegedly arisen out of dwindling private wealth and growing institutionalised savings.

It claims that an OTC market on the American model would provide an ideal "halfway house" between family or venture-capital investment and the broad public market of the Stock Exchange. It therefore asks the Committee to encourage the OTC market as an independent institution and to include the OTC market as part of the committee's forthcoming survey on the supervision and regulation of financial institutions.

For the last six years Nightingale has been running a self-styled "OTC market" on a one-man-band basis acting as banker, broker, dealer, market place, rule maker and rule enforcer. Its evidence gives a good picture of the American precedent for an OTC and how Nightingale has attempted to follow it. It claims, inter alia, that Nightingale's OTC has handled 10 out of the 23 new public offerings made in Britain over the last 3½ years and that 56 institutions now deal in the OTC's 15 securities.

The Stock Exchange, in whose hide Nightingale has long been a thorn, gets some fresh jabs in this evidence. Nightingale claims that small companies quoted on the OTC get a higher share price, are less vulnerable to take-over, have a more stable list of shareholders, and pay substantially less than they would if quoted on the Exchange.

The Stock Exchange has claimed in its own Wilson evidence that its provision for dealing in unlisted securities—Rule 163 (2)—could, if better publicised, go some way towards meeting any demand for a market in small company securities. But its representatives have said that in order to preserve the attraction of a Stock Exchange listing they "have to avoid too good a form of market for these companies." Nightingale has, of course, pounced in its evidence upon this division of loyalties with relish.

The fact remains that one stall does not make an OTC market. Nightingale is having to face up to a dilemma of its own: having operated as a one-man band for six years it must now get others into the game to provide some visible competition. It must pass regulations of the market on to some higher authority and count itself among the regulated. This is a tough pill to swallow for a bank that runs and profits from a little "market" of its own creation.

The evidence tells of Nightingale's intentions in this direction but cannot yet tell of any concrete advances. It wants to see an OTC supervisory council set up whose membership would be composed of small company executives, small company investors, and OTC dealers. The council would be under the umbrella of the new "Council for the Securities Industry" (CSI) currently being organised by the Bank of England.

Nightingale is in the process of drawing up draft rules for the widened over-the-counter market and will be prepared to deliver them to the Wilson Committee on demand. There is, however, no undertaking yet from the Bank that the CSI will accommodate this newcomer. The Stock Exchange is strongly opposed to fragmentation of the securities market and given its weight in the preparation of the CSI, an official blessing of the Nightingale initiative would be a most remarkable development.

Yet without an authority independent of Nightingale to police the market it remains most unlikely that other City firms will feel tempted to play their part in the OTC market. And without this competition the OTC must remain suspect.

A market made, like the American OTC, by dealers trading directly with the public must have its prices constrained by competition if they are to be fair prices. The solitary Nightingale claims only to match buying and selling interest in the stocks on its OTC, taking no dealer's turn and building up no position in the securities. Nevertheless it offers an Achilles Heel to its critics by acquiring a Warrant to buy up to five per cent. of all companies quoted in its market.

The potential conflict of interest is obvious and Nightingale can only justify it by pointing out that it is obvious to all who trade on the Nightingale OTC. Warrants are one of Nightingale's major incentives in creating this "market" for small companies. Its argument that the same incentive is found across the OTC in the U.S. would be stronger if there were 571 OTC market makers competing in Britain—the number who ply this market in America.

Behind the small skirmish between The Nightingale OTC and the Stock Exchange Rule 163 (2) lies the larger question whether a new trading system for small companies is really needed. Nightingale asserts that an OTC market will help plug the equity gap, and this is really an assertion that an improved secondary system of trading will help stimulate a primary market for small company securities. The Stock Exchange evidently is not convinced.

The Wilson Committee can talk to all the parties involved here—small companies, venture capital companies, entrepreneurial investors, institutional investors. It should be able to decide whether the shift in the structure of savings requires a change in the system of share trading to unleash the institutional cash upon the small company sector. A priori, it would seem far more likely that if business and taxation conditions were changed in a way that would stimulate primary investment in small companies, the problem of secondary trading in their shares would look after itself.

John Jacobs dividend policy

UNTIL THERE is an upturn in world shipping John I. Jacobs and Co., shipbroker, will not show materially better trading results. However, the directors hope to pay at least a maintained dividend for 1978, Mr. J. H. Jacobs, the chairman, tells members.

The state of world shipping remains very sick but the company is in a very strong position to wait for improvement, particularly in the tanker market, "which will surely come one day," he says.

Following his earlier suggestion that the company's capital might be reduced to allow for a repayment to stockholders professional advice was obtained. He now says that this course of action is not realistically open to the directors for it would seem that, because of the 1973 one-for-one scrip issue from reserves, any cash repaid to members arising from a reduction in capital would be looked upon by the tax authorities as income.

This position will apply until ten years after the issue.

In the meantime the cash being held is mainly invested in short or medium term fixed interest securities and deposits and there is a small commitment to "first class" equities.

Turnover in 1977 was down at £1.19m. (£2.15m.) and taxable earnings were ahead to £2.85m. (£1.44m.) including £1.81m. (nil) profit on the sale of a vessel—as reported March 16. The net dividend is stepped up to 1.84906p (1.6555p).

Net liquid funds at year end were down £8,472 (£7.61m.) with a £363,469 bank overdraft eliminated and balances at bankers of £415,955 (£537,796), and no holding of sterling certificates of deposit, against £250,000 in 1976.

All departments of the business worked well in difficult markets during the year, and arranged a reasonable share of the total business transacted in London. The group is currently well placed for when, hopefully, there is much more business to be done at considerably better rates, Mr. Jacobs comments.

The company is at present in serious negotiation for the occupation of one of the two floors that it formerly occupied at Winchester House, EC, and has some enquiry about the other floor. Until these premises are leased or sub-let the rental and other costs to the company amount to £128,000 a year.

Meeting, Winchester House, May 12, 11.30 a.m.

هكذا من الأجل

Pending dividends timetable

The dates when some of the more important company dividend statements may be expected in the next few weeks are given in the following table. Dates shown are those of last year's announcements, except where the forthcoming Board meetings (indicated thus*) have been officially published. It should be emphasised that the dividends to be declared will not necessarily be at the amounts or rates per cent. shown in the column headed "Announcement last year." Preliminary profit figures usually accompany final dividend announcements.

	Date	Announcement last year
Akroyd Smithers	May 12	Int. 5
Assoc. Eng'g	May 26	Int. 1.27
Averys	May 18	Final 3.47553
Avon Rubber	May 25	Int. 4
*Bank of Ireland	May 9	Final 11p
Bass Charringtn.	May 25	Int. 1.631533
Beecham	May 18	Final 2.2736
Berisford (S. & W.)	May 25	Int. 3.5
Bestobell	Apr. 19	Final 5.21943
Blackwood Hodge	Apr. 17	Final 2.15
BOC Int.	May 25	Int. 1.34
Boots	May 19	Sec. int. 1.7961
Borthwick (Thos.)	May 16	Int. 2.4
*British Home Stores	May 2	Final 3.1
Brixton Estate	May 5	Final 0.6817
BSG Int.	Apr. 18	Final 1.1375
Burmah Oil	Apr. 19	Final nil
Burton Gp.	May 12	Int. 0.6
Cater Ryder	May 16	Final 12.733
Clive Discount	Apr. 20	Final 3.5
Coalite and Chemical	May 19	Final 0.3896
Coats Patons	May 19	Final 1.8778
Coral Leisure	Apr. 20	Final 3
Costain (R.)	May 10	Sec. int. 1.3987
Courtaulds	May 20	Final [illegible]
Currys	Apr. 17	Final 4.06439
Debenhams	May 19	Final 3.3687
Delta Metal	Apr. 19	Final 3.672
Dunlop	Apr. 20	Final 2.6
Duport	May 18	Final 2.39158
EDITH	Apr. 27	Final 4.7
Ever Ready	May 26	Sec. int. 2.971
Foseco Minsep	Apr. 26	Final 2.4071
French Kier	May 18	Final 6.5
Furness Withy	May 17	Sec. int. 4.391
Gerrard and Nat. Discount	Apr. 28	Final 4.816
Gibbs (A.)	Apr. 13	Final 1.25125
Gill & Duffus	Apr. 26	Final 3.12
Hawker Siddeley	Apr. 18	Final 7.5992
Heath (C. E.)	May 17	Final 2.1
ICL	May 26	Int. 2.5
K Shoes	May 27	Int. 0.77
Laing (J.)	May 3	Final 2.07278
Land Investors	May 18	Int. 0.4
Leporte	May 5	Final 3.39891
*Lead Inds.	Apr. 20	Final 3.26
Lloyds and Scottish	May 12	Int. 1.54
London and Northern	May 26	Final 2
*Mallinson Denny	May 10	Final 1.5
Marks and Spencer	Apr. 28	Final 2.48
*Marley	May 25	Int. 1
Mettoy	Apr. 20	Final 0.95
Minet Hldgs.	Apr. 28	Final 1.419
Mothercare	May 2	Final 3.414
*Mowlem (J.)	Apr. 20	Final 4.3775
Natl. and Comcl. Bank	May 5	Int. 1.25
P & O	May 4	Final 3.35742
*Pearson Longman	Apr. 21	Sec. int. 3.610
*Pearson (S.)	Apr. 21	Sec. int. 4.18436
Press (Wm.)	May 26	Final 0.75
*Ransome Hoffmann Pollard	May 24	Int. 1.44
RHM	May 18	Int. 1.32
Readicut Int.	May 12	Final 0.5977
*Royco	Apr. 19	Final nil
*Rugby Portland Cement	Apr. 17	Final 1.62
Sainsbury (J.)	May 4	Final 3.57
Samuel (H.)	May 24	Sec. int. 6.4
Sears	Apr. 25	Final 2.31
*Serck	May 4	Int. 2
*Simon Eng'g	Apr. 24	Final 4.5523
Smurfit (J.)	May 2	Final 4.82125
Spillers	Apr. 27	Final 1.94825
Staflex Int.	May 20	Final 1.61
Staveley Inds.	May 12	Int. 4.4
Swan Hunter	May 24	Sec. int. 2.5
*Tarmac	Apr. 27	Final 3.258
*Tele. Rentals	Apr. 28	Final 3.65
Trafalgar House	May 19	Int. 2.34
Triplevest	Mar. 31	Final 1.901
UDS	May 19	Final 2.7
*Vaux Brews.	May 10	Sec. int. 6.93
Vickers	Apr. 27	Final 5.2966
Whitbread Inv.	May 12	Final 2.826
*Wimpey (G.)	Apr. 27	Final 0.80968
*Youghal Carpet	Apr. 21	Final 4.00

* Board meetings intimated. † Rights issue since made. ‡ Tax free. § Scrip issue since made from reserves.

Public Works Loan Board rates

Effective from April 18

Years	Quota loans repaid by EIP†	by EMI‡	at maturity	Non-quota loans A* repaid by EIP†	by EMI‡	at maturity
Up to 5	9¾	10	10¼	10¾	11	11¼
Over 5, up to 10	10¾	10¾	12	11¼	11¾	12¼
Over 10, up to 15	11¾	12	12¾	12¼	12½	12¾
Over 15, up to 25	12¼	12½	12¾	12¾	13	13¼
Over 25	12½	12¾	12¾	13	13¼	13¼

* Non-quota loans B are 1 per cent. higher in each case than non-quota loans A. † Equal instalments of principal. ‡ Equal repayments.

BASE LENDING RATES

A.B.N. Bank	6½%
Allied Irish Banks Ltd.	6½%
American Express Bk.	6½%
Amro Bank	6½%
A P Bank Ltd.	6½%
Henry Ansbacher	6½%
Banco de Bilbao	6½%
Bank of Credit & Cmce.	6½%
Bank of Cyprus	6½%
Bank of N.S.W.	6½%
Banque Belge Ltd.	6½%
Banque du Rhone	7 %
Barclays Bank	6½%
Barnett Christie Ltd.	8½%
Bremar Holdings Ltd.	7½%
Brit. Bank of Mid. East	6½%
■ Brown Shipley	6½%
Canada Permanent AFI	6½%
Capitol C & C Fin. Ltd.	8½%
Cayzer Ltd.	7 %
Cedar Holdings	8 %
■ Charterhouse Japhet	6½%
Choulartons	6½%
C. E. Coates	7½%
Consolidated Credits	6½%
Co-operative Bank *	6½%
Corinthian Securities	6½%
Credit Lyonnais	6½%
The Cyprus Popular Bk.	6½%
Duncan Lawrie ¶	6½%
Eagil Trust	6½%
English Transcont.	8 %
First London Secs.	6½%
First Nat. Fin. Corpn.	8½%
First Nat. Secs. Ltd.	8 %
■ Antony Gibbs	6½%
Greyhound Guaranty	6½%
Grindlays Bank ‡	6½%
■ Guinness Mahon	6½%
■ Hambros Bank	6½%
■ Hill Samuel §	6½%
C. Hoare & Co. †	6½%
Julian S. Hodge	7½%
Hongkong & Shanghai	6½%
Industrial Bk. of Scot.	6½%
Keyser Ullmann	6½%
Knowsley & Co. Ltd.	9 %
Lloyds Bank	6½%
London Mercantile	6½%
E. Manson & Co. Ltd.	8 %
Midland Bank	6½%
■ Samuel Montagu	6½%
■ Morgan Grenfell	6½%
National Westminster	6½%
Norwich General Trust	6½%
P. S. Refson & Co.	6½%
Rossminster Accept'cs	6½%
Royal Bk. Canada Trust	6½%
Schlesinger Limited	6½%
E. S. Schwab	8½%
Security Trust Co. Ltd.	7½%
Shenley Trust	9½%
Standard Chartered	6½%
Trade Dev. Bank	6½%
Trustee Savings Bank	6½%
Twentieth Century Bk.	7½%
United Bank of Kuwait	6½%
Whiteaway Laidlaw	7 %
Williams & Glyn's	6½%
Yorkshire Bank	6½%

■ Members of the Accepting Houses Committee.
* 7-day deposits 3%, 1-month deposits 3½%.
† 7-day deposits on sums of £10,000 and under 3%, up to £25,000 3½% and over £25,000 4½%.
‡ Call deposits over £1,000 3%.
§ Demand deposits 4%.
¶ Rate also applies to Sterling Ind. Secs.

RECENT ISSUES

EQUITIES

Issue Price p	Amount Paid up	Latest Renunc. Date	1978 High	1978 Low	Stock	Closing Price p	+ or −	Div.	Times Covered	Gross Yield	P/E Ratio
[illegible]	F.P.	26/4	127	118	Saga Holidays	127	+1	5.75	2.9	6.1	8.6

FIXED INTEREST STOCKS

Issue Price £	Amount Paid up	Latest Renunc. Date	1978 High	1978 Low	Stock	Closing Price £	+ or −
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

"RIGHTS" OFFERS

Issue Price p	Amount Paid up	Latest Renunc. Date	1978 High	1978 Low	Stock	Closing Price p	+ or −
[illegible]	Nil	[illegible]	[illegible]	[illegible]	Bullough	[illegible]	[illegible]
[illegible]	F.P.	30/3	[illegible]	[illegible]	C. H. Industrials	[illegible]	[illegible]
[illegible]	F.P.	29/3	[illegible]	[illegible]	Watmoughs	[illegible]	[illegible]

Renunciation date usually last day for dealing free of stamp duty. [illegible]

INTERNATIONAL COMPANY NEWS

Svenska Varv sees further Kr1.5bn. loss

BY WILLIAM DULLFORCE — STOCKHOLM, April 16.

IN 1977, its first year of operation, Svenska Varv, the Swedish state shipbuilding company, made a pre-tax loss of Kr.2.24bn. ($488m.) on a total turnover of Kr.4.66bn. ($1.02bn.), according to the final figures released in Gothenburg on Friday. The Board anticipates a further loss of the order of Kr.1.5bn. this year and notes that under Swedish law it would be forced into liquidation at the end of 1978 without further intervention by the state.

The major components in the Kr.2.24bn. loss are a Kr.912m. provision for anticipated customer defaults, Kr.846m. from exchange rate fluctuations, of which a large part stems from the inherited Swiss franc loans, and Kr.594m. for the losses the yards are expected to make on current production. The pre-tax loss is reduced by Kr.400m. through the state guarantees available to Svenska Varv for producing ships on its own account.

Significantly, however, the State company now acknowledges that *the decision taken in 1975* to build ships on the yards' own *account was a mistake. Current* market prices for these vessels are substantially lower than their production costs—the Kr.594m. loss on *current production shown* above. The Swedes' decision to produce for stock has been heavily criticised by foreign shipbuilders.

A breakdown of the currency losses shows that last year's devaluation of the krona cost Svenska Varv some Kr.490m., while the loss from the appreciation of the Swiss franc is posted at Kr.356m. The State company hopes to repay the Swiss debts as speedily as possible with the aim of liquidating them by 1981. This policy will, however, increase the group's vulnerability to fluctuations in the dollar rate.

Over Kr.1bn. of the pre-tax loss, excluding the currency losses, is attributed to the yards building new ships. The modern Arendal yard in Gothenburg had the biggest loss, Kr.544m., while the smallest, Öresund, kept its deficit down to Kr. 14m. But even the repair yards turned in considerable deficits for 1977, while the shipping company, Zenit, formed to operate ships which customers could not pay for, made a loss of Kr.66m.

The Board comments that a further reduction in capacity on the new building side is economically inevitable, even though it *would entail considerable costs.* Main hope for the future is pinned to the new *development* company, which is working on *projects for floating* petro-chemical plants.

Jardines reconstructs South-East Asia unit

BY ANTHONY ROWLEY — HONG KONG, April 16.

JARDINE MATHESON group has announced plans for the "*reconstruction*" of its separately quoted and Singapore-based subsidiary, Jardine Matheson and Company (South *East Asia*), involving the cancellation of the Ordinary shares *not already owned by the Jardine* parent group.

The proposals are expected to involve the issue of a Singapore dollar-denominated loan stock to the holders of the outstanding shares, whose equity will then be cancelled.

Jardine Group said that "In order that the interests of the minority shareholders of Jardine Matheson (South East Asia) should be *fully* protected, the directors of Jardine Matheson (South East Asia) have appointed United Chase merchant bankers to advise them on the proposals.

Pending the agreement of terms between Jardines and its *advisers, Jardine Fleming* International and United Chase merchant bankers, the *directors* of Jardine Matheson (South East Asia) have requested the Stock Exchange of Singapore and the Kuala Lumpur Stock Exchange to suspend quotation for the ordinary *shares of* Jardine Matheson (South East Asia). A further announcement will be made as soon as possible.

Thomson Brandt profits up

By David White

PARIS, April 16.

THOMSON-BRANDT, the parent company of the giant French *electrical* armaments and telecommunications concern, showed a *Frs.20m.* increase in net earnings last year to Frs.160m. ($35m.).

The proposed dividend, at a gross *Frs.15.50* per share, is unchanged from the previous year, but will be paid *on higher capital* after a one-for-five scrip issue *made in October.*

Parent company sales rose to *Frs.4.02bn. from Frs.3.58bn., and* turnover of the Thomson Group *as a whole to Frs.19.68bn. from* Frs.16.87bn.

The near 17 per cent. *rise* in consolidated sales includes the *contributions* of two companies which were last year taken under *the wing* of the group's electronics and telecommunications unit Thomson-CSF.

Setting aside the sales of these companies, Compagnie Generale d'Informatique et de Systemes and Societe le Silicium Semi-Conducteur, the growth of turnover on a comparable basis was 11 per cent.

The biggest growth, not surprisingly, was in the export market, where sales rose by a quarter to Frs.7.56bn. Four-fifths of these sales were products and services bought directly from the Thomson group's French-based operations.

Foreign markets accounted for 38 per cent. of the group's business.

REDEC raises S. Riyal 300m.

Financial Times Reporter

SAUDI Research and Development Corporation (REDEC) a Saudi Arabian private company, has just signed a Saudi Riyal *300m. loan agreement with an* international consortium of banks under the leadership *of* Banque Arabe et Internationale *d'Investissement* (BAII).

The loan is for five years and carries a spread of 2 per cent. over the interbank Saudi Riyal rate. It is believed to be the biggest syndicated credit yet raised by a Middle Eastern company and is the largest loan *syndicated abroad to be* denominated in Saudi Riyal.

MINING NOTEBOOK

Libanon should pay out well in June

BY LODESTAR

THE RECENT gold price tremors, largely brought about by fears *that the U.S. Treasury will deem* a resumption of bullion sales *necessary in order to defend* the dollar, have not entirely quenched *the search for producer shares* that would gain most benefit from *a fresh forward movement* towards the $200 level. Inquiries on this score still flow in.

As for the gold market itself, there appears to be some resistance to the down-trend in the $175-$180 area. The next major support level would be between $165 and $170. In the meantime, any strong recovery may have to await the resolving of another current *uncertainty. This is what* form the International Monetary Fund auctions will take in mid-year when the presently planned series of offerings will have been completed.

In the Stock Market I find there are still hankerings by gold price bulls after the shares of the old marginal producers although there have been previous warnings in this column about the risks involved in such *issues. Risks that were underlined* recently by the chairman of *one such mine, East Rand Proprietary.*

He said that "if the required improvement in the gold price does not eventuate in the near future and if the State loan facility is not extended into 1978, the company may again be faced with the problem of a depletion of its cash resources. Under these circumstances there will probably *be no alternative but to embark* upon a severe cut-back *programme or even a rapid suspension of operations.*" Gold was $187 at the date of this warning. It is now $178½.

It would thus be safer to go for a share such as Libanon which can soldier on very profitably with bullion at around its present level and has good earnings leverage if it should take off again. In December, Libanon came out *with an interim dividend that was* above general expectations at 40 cents compared with only 5 cents for 1976-77 when the final was 40 cents.

The March quarter profit, if it *is sustained in the final three* months of the company's year, *points to net earnings for 1977-78* of around 118 cents a share after allowing for estimated capital expenditure. This indicates a possible final dividend in June of 60 cents to make 100 cents (61.8p) for the year compared with 45 cents. Libanon were 508p on Friday.

Actually, as explained in Saturday's mining column, June quarter profits of the South African mines are likely to get a once-for-all boost from the change-over in the way they are paid for their gold now that the country has revalued its bullion reserves and thus done away with the old $42 an ounce "official" price. Whether managements will be prepared to take this non-recurring bonus into account when deciding the June dividends is a moot point. If they do there *could be some pleasant surprises.*

BH South suffers

From time to time it has been pointed out here that about the *only bull point for Australia's BH* South has been the quiet way in which its Collins House stablemate North Broken Hill has been picking up the shares. The query was whether this was just a defensive policy or whether its represented a *genuine belief in South's* long-term investment attractions.

Short-term prospects have certainly not been enhanced by the *increased half-year loss of* £A7.1m. against $A4.35m. announced over the *week-end,* *reflecting* higher losses by the Queensland phosphate operation and by the Cobar copper mine. The only bright feature was an improvement in investment income to $A2.26m., a trend that should continue in the current half.

How disappointing the *big* phosphate venture has been can be judged from the fact that it was only a year ago that the management was *forecasting* a return to the dividend list by BHS in September last. Now any payment next September looks *unlikely.* And the company is sadly having to seek government *assistance for both its phosphate* and copper operations. Moreover, it is finding *penetration of* prospective new markets for *phosphate to be "difficult."*

When I last referred to BHS in January I said that stale bulls might be encouraged by NBH having raised its stake therein to 16 per cent. BHS were then 72p and are now 76p. So where is the encouragement to come from now? A worth-while rise in the copper price would help. So might the conclusion of a deal bringing in an equity partner for the struggling phosphate venture.

It is reported from Sydney that talks are being held with two parties who have expressed interest in making such a deal.

Tasminex now

It was on January 30 that Tasminex, that high-flying Australian comet which burned out so *quickly* way back in 1970, was recalled here with the advice that *it was not yet time to paper the* parlour with the share certificates. The price then was 28 cents in Melbourne. On Friday is was 95 cents and the London quote was 90p, a 35p rise on the week.

The reason for the January advice to hang on was the company's cash flow from a wolfram operation in Tasmania and the news that a big Canadian group McIntyre Mines was contemplating *taking an interest therein and* putting up money for its further *exploration and development.*

Subsequently, Tasminex has *announced a first-ever profit of* $A128,557 for the half-year to December 31 as a result of its Tasmanian production which at that date amounted to 82,630 metric ton units of concentrates with an average 69 per cent. wolfram content which have been sold to Germany. Moreover, a second shift at the mine was being planned for the current *half year.*

So Tasminex's claim way back, based on a *nickel find hope,* that it would be "as big as Poseidon" is now at last coming true though this is admittedly largely due to Poseidon's currently shrunken stature. Whether the recent headlong rise in the share price is justified is another matter. It could present a good opportunity to get some money back on those faded share certificates.

The Exxon-RTZ link-up story reported in Saturday's paper will no doubt be a prime talking point in the share market this morning particularly the possibility of joint mineral ventures. One suggestion made over the week-end was that the *big Labrador uranium project,* currently being assessed by *Brinco and Germany's Urangesellschaft,* might be a suitable one for *starters.* One thing is *certain,* though Exxon has denied wanting a direct stake in RTZ, the recently dormant rumours that an oil major will make an outright bid one of these days are bound to be revived.

FOREIGN EXCHANGES

Dollar optimism returns

BY COLIN MILLHAM

Politicians on both sides of the Atlantic should be getting used to financial markets reacting unfavourably to their pronouncements and economic measures.

Budgets in the U.K. and Canada can hardly be said to have been well received as far as their respective currencies are concerned, while various statements by U.S. officials over the last few months have sometimes appeared to increase the downward pressure on the dollar.

President Carter's speech on his anti-inflation programme on *Tuesday had little impact on the* dollar, since as the foreign exchange *market has shown before* actions speak larger than words.

This does not mean that the dollar has continued to weaken recently however. It has generally tended to improve in fairly quiet trading. Morgan Guaranty's calculation of the dollar's depreciation, since the Washington Currency Agreement of 1971, narrowed to under 8 per cent. for the first time this month last Thursday.

The dollar improved to DM2.0325 against the D-mark on Friday, from DM2.0100 at the end of the previous week. It was suggested *that some European central banks* may have sold dollars to push up *their own* currencies against the usually strong D-mark. In some *cases this would help to relieve* the pressure on the margins of the European currency snake.

The dollar's rise is not altogether surprising, since market sentiment about the dollar has shown signs of improving recently. It could be that the worst is over as far as unsettled conditions in the foreign exchange market are concerned.

The Japanese yen may rise further, since something approaching a record surplus is expected, while the British trade deficit for March led to continued selling of sterling on *Friday.* The pound finished at $1.8560-1.8570, a fall of 1.80 cents *on the week. Its trade-weighted* index, as calculated by the Bank of England, fell from 62.2 to 61.7, the lowest closing level since early August last year.

Apr. 14 1978	Sterling Certificate of deposit	Interbank	Local Authority deposits	Local Auth. negotiable bonds	Finance House Deposits	Company Deposits	Discount market deposit	Treasury Bills ɸ	Eligible Bank Bills ɸ	Fine Trade Bills ɸ
Overnight	—	1-6¼	—	—	—	—	5-6	—	—	—
2 days notice	—	—	6⅛-5⅞	—	—	—	—	—	—	—
7 days or 7 days notice	—	5⅛-6	5⅞-6	—	6⅛-6¼	—	6-6⅛	—	—	—
One month	5⅞-6¼	6⅛-5⅞	6⅛-5⅞	7⅛-6⅞	6⅞-7¼	—	6⅛-6⅛	5⅞-6⅛	6⅛-6⅞	7¼
Two months	7⅛-7	7-7⅛	—	7⅛-6⅞	7¼-7¾	—	6¾	6¾-7	7-7⅛	7⅛
Three months	7⅛-7⅛	7⅛-7⅛	7¼-7⅜	7¾-7⅝	7⅛-8	—	7	7	7⅛-7⅛	7¾
Six months	8-7⅛	8-8¼	7⅞-8	7¾-7⅝	8¼-8¾	—	—	—	7⅞	8½
Nine months	8½-8⅞	8⅜-8¼	—	8¼-8½	9	—	—	—	—	—
One year	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	—	—	—	—	—
Two years	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	—	—	—	—	—

Local authorities and finance houses seven days' notice, others seven days' fixed. [illegible] Finance House Base Rates (published by the Finance Houses Association) 7 per cent. from April 1, 1978. Clearing Bank Deposit Rates for small sums at seven days' notice [illegible] per cent. Clearing Bank Rates for lending [illegible] per cent. Treasury Bills: Average tender rates of discount [illegible] per cent.

GOLD MARKET

	April 14	April 13
[illegible]	[illegible]	[illegible]

CURRENCY RATES

April 14	Special Drawing Rights	European Unit of Account
[illegible]	[illegible]	[illegible]

FOREIGN EXCHANGES

April 14	Bank Rate %	Day's Spread	Close
[illegible]	[illegible]	[illegible]	[illegible]

Rates given are for convertible francs. Financial franc [illegible].

OTHER MARKETS

[illegible]	[illegible]	[illegible]	[illegible]

Rate given for Argentina is a free rate.

EXCHANGE CROSS-RATES

April 14	Frankfurt	New York	Paris	Brussels	London	Amst'dam	Zurich
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

U.S. $ in Toronto [illegible]. Canadian $ in New York [illegible]. U.S. $ in Milan [illegible]. Sterling in Milan [illegible].

EURO-CURRENCY INTEREST RATES*

April 14	Sterling	Canadian Dollar	U.S. Dollar	Dutch Guilder	Swiss Franc	W. German Mark
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Euro-French deposit rates: [illegible]. Long-term Eurodollar deposits: [illegible]. The following nominal rates were quoted for London dollar certificates of deposit: [illegible]. * Rates are nominal calling rates. Short-term rates are call for sterling, U.S. dollars and Canadian dollars; two days' notice for guilders and Swiss francs.

FORWARD RATES

	One month	Three months
[illegible]	[illegible]	[illegible]

Six-month forward dollar [illegible]. 12-month [illegible].

INSURANCE

Protection against inflation

BY OUR INSURANCE CORRESPONDENT

THOUGHOUT the property insurance market, under-insurance continues to be a problem, both for insurers, who get inadequate premiums for the risks they cover, and for policyholders, who run the risk of getting their claims met only in part.

So long as inflation continues and market practice is to fix positive maximum sums insured for property cover, under-insurance seems certain to be a problem.

On the domestic front, most big insurers are now in their *second year of index linking* sums insured, both on buildings *and on contents, to keep sums* insured and premiums adequate.

On the commercial front, there are different problems. *There are much larger values* at risk in buildings and stocks, *because property is of widely* different kinds and commercial *property covers are normally* subject to average.

For some time, insurers have been offering a policyholders *cover from the starting point of* basic valuation by a professional, *plus a suitable addition for* inflation provision, but have *made this cover subject to the* overriding point that the condition of average will apply at the time of reinstatement.

As a development of this, insurers are now offering large commercial policyholders what should prove to be a more *attractive form of inflation protection* for buildings, plant and *machinery insured on a re-instatement* basis. The new scheme will be available on and from May 1, and will be available where the value of the property at risk is £5m. or more.

At the outset, the policyholder has to calculate the reinstatement value of his property, in present day, immediate, pounds, ignoring entirely the effect of future inflation or any delay in repair or reinstatement. This notional reinstatement value becomes the *declared value on* which the whole of the insurance hinges.

The policyholder also fixes a *suitable percentage to cover both* inflation during the policy year and inflation from date of loss (which may be the last day of the insurance year) to ultimate reinstatement.

If he thinks inflation will run at 10 per cent. a year and reinstatement will, at the most, take a year, then his appropriate percentage becomes 21 per cent. for the two-year forward period.

Subject to other underwriting considerations, he then pays insurers' normal rate on the declared value: but this rate is subject to a surcharge having regard to the inflation estimates selected. This surcharge runs from a minimum of 12½ per cent. for a 25 per cent. inflation estimate, to a maximum of 30 per cent. for an 80 per cent. inflation estimate.

Thereafter, at each renewal, the policyholder has to revise his declared value and his inflation estimate in the light of prevailing conditions.

At first and subsequent renewals, in addition to the premium that the policyholder pays for forward cover, he is required to pay an adjustment premium, which is calculated on half the increase between the declared value at the beginning of the year and at the end.

In the unlikely event of there being a reduction in declared value in the subsequent year, insurers give no rebate, unless that reduction stems from the positive diminution of risk from the underwriting and not the inflationary/deflationary viewpoint.

LOCAL AUTHORITY BOND TABLE

Authority (telephone number in parentheses)	Annual gross interest	Interest payable	Minimum sum	Life of bond
	%		£	Year
Barking (01-592 4500)	8¾	½-year	5,000	2
Barnsley Metro. (0226 203232)	10	½-year	250	4-7
Redbridge (01-478 3020)	10	½-year	200	5-7
Rushcliffe (0602 811511)	9½	½-year	500	3
Southend (0702 49451)	9¾	½-year	250	3
Thurrock (0375 5122)	10¼	½-year	300	4
Thurrock (0375 5122)	10½	½-year	300	5-8
Wrekin (0952 505051)	10	yearly	1,000	4

EUROBONDS

A story of sterling woe

BY FRANCIS GHILES

FOR THE SECOND time since April 1, the main story of the week was one of woe for sterling denominated bonds. Prices in this sector were hit for six by the rise of one point in the Minimum Lending Rate announced by the Chancellor of the Exchequer, Mr. Denis Healey in his budget speech last Wednesday. By the following evening, prices of most bonds had shed over two points as professional selling gathered momentum. Worse than expected trade figures on the last day of trading had a further dampening effect so that, by Friday evening, prices had fallen on average about four and a half points on the week.

The Gestetner issue held up better than most no doubt because of its smaller size and higher coupon. Although yields increased, dealers felt they were not attractive enough at current levels to entice buyers back into the market.

A further sign of the deteriorating trend in this market was that dealers were trading on wider spreads than is normally the case, usually between three quarters and a full point.

Few dealers were expecting a recovery this week. One of them argued that yields on longer term gilts were close to 13 per cent. in many cases and that yields on sterling bonds must rise to similar levels before prices stand any real chance of stabilising. This suggests that prices could well shed a further two or three points in the next week or so.

The dollar sector was firm throughout the week with most prices improving by about ½ of a point although IC Industries got off to a disappointing start, being quoted at 98½. Two new issues were announced over the weekend, one of which is for that much prized animal, a triple AAA U.S. corporation, in this case the food processing company, Beatrice Foods Inc. This company had net sales amounting to $5.29bn. last year and is the first non-oil or non-utility triple AAA U.S. corporate name to come to the market since 1971. The management group will include a small number of big banks and there will be no public underwriting group. The selling group discount will be the normal 1½ per cent. for paper of such maturity.

The floating rate note sector was firm with the recent Amex issue being quoted either side of par. The Credit Commercial de France floater is the first such issue by a French bank since the General Elections held in France last month. A private placement of floating rate notes is expected this week for the International Commercial Bank of China, which is based in Taiwan. Dillon Read is arranging this five year bullet issue which is expected to be for $20m. The coupon is expected to be set on a ¼ per cent. over Libor with the minimum coupon set at 7¼ per cent.

The Deutsche mark sector had mixed fortunes last week with the more "exotic" names falling to fairly sharp discounts in the aftermarket. The issue for Spain and for Mexico, both of which had been priced at par were being quoted at a discount of three points on Friday. In contrast the Norway issue was being quoted at 99-99½, despite carrying a very low coupon.

Clearly investors mind the fall in coupon less when it applies to top quality short term paper but feel that a 6 per cent. coupon for longer term Spanish or Mexican is much too tight. The French Treasury has succeeded in getting the lowest coupon so far for a French borrower in this market, 5¾ per cent. for 10 years.

The trend set at the short end of the market by Norway's 4¾ per cent. coupon was confirmed with Deutche Bank's Luxembourg subsidiary, Compagnie Financière de la Deutsche Bank floating a DM250m. on identical terms.

Coming at a time when a number of banks from a wide range of European countries have decided to raise money on the Eurobond market, this bond for Cie Financiere de la Deutsche-bank has confirmed many in the market in their views that banks are rushing to raise money while it is cheap and believe that credit conditions will tighten soon.

Dresdner Bank is expected to announce a DM70m. private placement and Westdeutsche Landesbank should come to the market with a DM40m. private placement for a Norwegian borrower, both of them this week.

The climate in the Swiss franc sector of the market improved last week. Recent issues such as Compania Vale do Rio Doce, Asea and Hydro Quebec all posted gains.

They were respectively being quoted at 99, 96½ and 98 on Friday. A SwFrs.30m. seven year private placement convertible with an indicated coupon of 3¾ per cent. is being arranged for the Japanese company Nagase by Crédit Suisse.

Banque Genérale du Luxembourg is expected to float a Lux.Frs.400m. ten-year bond at par with a coupon of 7½ per cent.

A decision on when to relaunch the 25m. unit of account issue for the City of Copenhagen, which was delayed last Monday, is expected to be taken early this week by lead manager Kredietbank Luxembourgeoise.

BONDTRADE INDEX AND YIELD

	April 14		April 7		1978 High	1978 Low
Medium term	99.68	7.86	99.59	7.86	99.81 (13/2)	99.15 (16/2)
Long term	93.78	8.36	93.67	8.39	93.84 (2/1)	93.03 (13/1)

EUROBOND TURNOVER
(nominal value in $m.)

	U.S. dollar bonds last week	U.S. dollar bonds previous week	Other bonds last week	Other bonds previous week
Euroclear	1,521.9	1,913.6	336.4	477.3
Cedel	476.7	650.6	316.7	477.6

CURRENT INTERNATIONAL BOND ISSUES

Borrowers	Amount m.	Maturity	Av. life years	Coupon %	Price	Lead manager	Offer yield %
U.S. DOLLARS							
‡†American Express	40	1982-85	—	—	100	EBC, Amex Bank	—
‡IC Industries	35	1985	7	9	100	Merrill Lynch	9
‡†IHI (g'teed Dai-Ichi Kangyo)	50	1985	7	5¾‖	100	First Boston (Europe)	5.83
TVO (g'teed Finland)	25	1988	7.8	8¾	*	ADIC, KFTCIC Chase Man. Ltd.	*
†United Overseas Bank	25	1983	5	6‖	100	Salomon	6.00
††United Kingdom	200	1985	7	*	*	Morgan Stanley	*
††United Kingdom	150	1993	15	*	*	Morgan Stanley	*
†Crédit Commercial de France	35	1985	7	5¾‖	*	CCF	*
Beatrice Foods	100	1983	5	7½	*	Kidder, Peabody Int.	*
D-MARKS							
‡Spain	200	1988	10	6	100	Dresdner	6.00
‡Light-Servicos (g'teed Brazil)	150	1986	8	6¾	100	Westdeutsche Landesbank	6.75
‡ADB	100	1988	10	5.5	99.75	Deutsche Bank	5.53
Norway	250	1983	5	4¾	100	Deutsche Bank	4.375
‡Cie Fin de la Deutsche Bank	200	1983	5	4¾	100	Deutsche Bank	4.375
‡P.K. Banken	100	1988	10	5¾	100	Dresdner	5.75
**S.A. Railways	40	1982	4	7¾	100	BHF Bank	7.75
Province of Quebec	150	1990	9.5	6	*	Westdeutsche Landesbank	*
Elf Aquitaine	100	1988	8.97	5¼	99	Deutsche Bank	5.385
§Sankyo Electric	40	1986	8	4	100	Bay. Vereinsbank	4.00
GUILDERS							
‡**ABN	75	1983	5	6¼	99½	ABN	6.37
YEN							
‡Sweden	40bn.	1990	9.9	6.3	99.60	Nomura Securities	n.a.
‡RENFE	16bn.	1990	9.9	6.5	99.15	Nikko Securities	n.a.
KUWAITI DINARS							
‡Banobras	7	1985-90	—	8¼	100	KIIC	8.25

* Not yet priced ‡ Final terms ** Placement † Floating rate note ‖ Minimum § Convertible
†† Registered with U.S. Securities and Exchange Commission ¶ Purchase Fund
Note: Yields are calculated on AIBD basis.

Indices

NEW YORK —DOW JONES

	Apr. 14	Apr. 13	Apr. 12	Apr. 11	Apr. 10	Apr. 7	1978 High	1978 Low	Since compilat'n High	Since compilat'n Low
Industrial	795.13	775.21	768.28	770.18	775.85	768.56	8 7.74 (3/1)	742.12 (28/2)	1051.70 (11/1/73)	41.22 (2/7/32)
H'me B'nds*	89.54	89.21	89.20	89.50	89.36	89.35	90.88 (4/1)	89.20 (12/4)	—	—
Transport	215.77	209.58	207.44	207.76	208.80	208.02	215.77 (3/1)	199.31 (9/1)	279.88 (7/2/69)	13.23 (8/7/32)
Utilities	106.09	105.99	105.82	105.83	106.32	105.85	110.98 (3/1)	102.84 (22/2)	165.32 (20/4/69)	10.58 (28/4/42)
Trading vol. 000's †	52,280	31,580	26,210	24,380	25,740	25,160	—	—	—	—

* Basis of index changed from August 24.

	Apr. 7	Mar. 31	Mar. 24	Year ago (approx.)
Ind. div. yield %	6.06	6.16	6.16	4.81

STANDARD AND POORS

	Apr. 14	Apr. 13	Apr. 12	Apr. 11	Apr. 10	Apr. 7	1978 High	1978 Low	Since Compilat'n High	Since Compilat'n Low
‡Industrials	102.55	100.03	99.08	99.27	98.54	98.17	106.22 (3/1)	96.52 (6/3)	154.64 (11/1/73)	3.52 (30/6/32)
§Composite	92.92	90.28	90.11	90.25	90.45	90.17	[illegible] (3/1)	86.90 (6/3)	125.85 (11/1/73)	4.40 (1/6/32)

	April 12	Apr. 5	Mar. 29	Year ago (approx.)
Ind. div. yield %	5.56	5.59	5.46	4.21
Ind. P/E Ratio	8.65	8.48	8.48	10.41
Long Govt. Bond yield	8.34	8.32	8.25	7.66

N.Y.S.E. ALL COMMON

Apr. 14	Apr. 13	Apr. 12	Apr. 11	1978 High	1978 Low
51.84	50.81	50.48	50.47	51.84 (14/4)	48.37 (6/3)

Rises and Falls

	Apr. 14	Apr. 13	Apr. 12
Issues traded	1,915	1,866	1,850
Rises	1,232	1,041	735
Falls	356	401	636
Unchanged	325	424	479
New Highs	—	14	85
New Lows	—	109	22

MONTREAL	Apr. 14	Apr. 13	Apr. 12	Apr. 11	1978 High	1978 Low
Industrials	180.21	178.88	179.29	179.42	180.21 (14/4)	162.80 (16/2)
Combined	188.54	186.10	186.55	186.28	188.54 (14/4)	170.62 (30/1)
TORONTO Composite	1084.9	1068.0	1070.4	1060.0	1084.8 (14/4)	998.2 (30/1)
JOHANNESBURG Gold	188.9	187.8	188.2	188.4	218.7 (1/2)	186.0 (21/3)
Industries	209.0	[illegible]	206.6	205.8	214.4 (4/1)	194.4 (13/3)

	April 14	Previous	1978 High	1978 Low
Australia (¶)	464.88	461.77	479.44 (3/1)	441.19 (1/3)
Belgium (‖)	98.37	98.18	98.66 (11/4)	90.43 (12.1)
Denmark (**)	95.25	95.72	98.13 (9/1)	94.00 (6/2)
France (††)	65.4	65.5	64.6 (7/4)	47.6 (3/2)
Germany (‡‡)	793.6	794.6	812.7 (10/2)	769.2 (4/1)
Holland (§§)	79.2	79.1	82.1 (10/2)	76.0 (4/4)
Hong Kong (¶¶)	436.96	442.13	461.67 (4/4)	383.44 (13/1)
Italy (‖‖)	59.61	59.96	65.56 (6/3)	60.40 (10/1)
Japan (a)	411.08	408.78	411.08 (14/4)	364.04 (4/1)
Singapore (b)	298.38	298.22	298.38 (14/4)	282.00 (1/3)
Spain (d)	84.05	84.51	92.90 (10/1)	87.86 (17/3)
Sweden (e)	366.87	366.20	372.20 (14/4)	325.74 (5/1)
Switzerl'd (f)	291.8	292.1	296.38 (1/4)	280.4 (10/3)

Indices and base dates (all base values 100 except NYSE All Common — 50 Standards and Poors — 10 and Toronto 300-1,000, the last named based on 1975). † Excluding bonds. ‡ 400 Industrials. § 400 Inds., 40 Utilities, 40 Finance and 20 Transport. (¶) Sydney All Ord. (‖) Belgian SE 31/12/63. (**) Copenhagen SE 1/1/73. (††) Paris Bourse 1961. (‡‡) Commerzbank Dec., 1953. (§§) Amsterdam Industrial 1970. (¶¶) Hang Seng Bank 31/7/64. (‖‖) Milan 2/1/73. (a) Tokyo New SE 4/1/68. (b) Straits Times 1966. (c) Closed. (d) Madrid SE 30/12/77. (e) Stockholm Industrial 1/1/58. (f) Swiss Bank Corp. (u) Unavailable.

OVERSEAS SHARE INFORMATION

Inv. $ Prem. at $2.60 to £—108½% (104½%)
Effective rate (1.8665) 48½% (47%)

NEW YORK

1978 High	1978 Low	Stock	April 14
51¼	45⅛	Corning Glass	50
46⅝	42¼	CPC Int'national	44⅛
28⅝	24¾	Crane	28¼
31⅝	28¼	Johns Manville	31¼
78¼	66	Johnson Johnson	68
29⅝	24¾	Johnson Control	28⅝
43¼	38	Revlon	42⅛
32	28¼	Reynolds Metals	30
59⅛	52¼	Reynolds R. J.	58¼

CANADA

GERMANY

April 14	Price Dm.	+ or −	Div. %	Yld. %
AEG	88.8		—	—
Allianz Versich.	485		18	1.9
BMW	219.5	−0.5	20	4.5
BASF	137.9	+0.2	17	6.2
Bayer	140.3	−0.5	18	—
Bayer Hypo	287		18	3.1

JOHANNESBURG

MINES

April 14	Rand	+ or −
Anglo American Corpn.	5.10	
Charter Consolidated	2.97	+0.02
East Driefontein	10.90	−0.10
Elsburg	1.72	−0.08
Harmony	5.50	
Kinross	5.30	−0.20
Kloof	7.55	−0.05
Rustenburg Platinum	1.18	−0.05

AUSTRALIA

Apr. 14	Aust. $	+ or −
ACMIL (25 cent)	†0.66	−0.01
Acrow Australia	†0.90	
Allen Mnt-Trdg. Indu. $1	†2.20	
Ampol Exploration	†1.26	+0.01
Ampol Petroleum	†0.76	

PARIS

April 14	Price Frs.	+ or −	Div. Frs.	Yld. %
Rente 4½	707	+0.5	4½	0.6
Afrique Occ'dt'le	382.5	−4.5	21.15	5.7
Air Liquide	291		16.5	5.7
Aquitaine	403	+5	28.25	8.6
BIC	460		12.75	2.8
Bouygues	631	−4	47	6.6

VIENNA

AMSTERDAM

TOKYO ¶

BRAZIL

OSLO

COPENHAGEN *

SPAIN ♥

SWITZERLAND *

STOCKHOLM

MILAN

HONG KONG

BRUSSELS/LUXEMBOURG

Securities Rand $U.0.76 (Discount of 33.9%)

† Bid. ‡ Asked. § Traded. ¶ New Stock.

NOTES: Overseas prices exclude $ premium. Belgian dividends are after withholding tax.

FINANCIAL TIMES SURVEY

Monday April 17 1978

International Retailing

Throughout the developed world retailing methods — and with them shopping habits — have been transformed in recent years. The underlying trend is towards rationalisation and concentration, with the corner shop facing growing competition from the big groups.

Time of radical change

By Elinor Goodman
Consumer Affairs Correspondent

IN THE face of it shopping might seem a pretty parochial business with few claims to international status. Even the tourists who have flocked into London to do their shopping over the past few years are relatively insignificant in the wider scale of things. Most people shop where they live, so competition between retailers in different countries is relatively limited.

Yet in one sense retailing is a truly international business. Throughout the developed world shopping habits have changed radically over the past 15 years. The precise form of this revolution may have differed from country to country but the same broad trends can be seen almost everywhere and for the most part the reasons behind them are the same.

The abolition of Resale Price Maintenance *in the 1960s in* most European countries, the increase in affluence in general and car ownership in particular, and the trend towards more women *going out to work have all taken their toll on the old* shopping order. To-day's working woman no longer has the time—or indeed the inclination—to spend her day buying *cheese in one shop and soap in* another. Increasingly she wants to be able to do all her basic shopping under one roof and preferably park her car nearby *while she is doing it.*

She may hanker for the days *of personal service*—and indeed still demand it when it comes to buying something like clothes—but rarely is she prepared to accept the need to pay for it. Increased price competition is a feature of grocery retailing throughout Europe and North America. In many countries this emphasis on price has extended to other sectors like electrical durables: new discount specialist chains have emerged putting pressure not only on the private trader but also on the department store, and in some cases on the variety chains too.

But in most countries it has *been the independent traders*—notably those selling food—which have suffered most from the change in shopping habits. In every developed country the *independent shops have come* under increased pressure from the multiples. In some countries, particularly on the Continent, the small shopkeeper lobby has wielded enough political clout to succeed in its demands for *some measure of legislative pro*tection: In others, like Switzerland and Sweden, the rate of shop closures has resulted in government itself looking for *some way of ensuring that their* smaller rural communities are not completely denuded of shops.

But as yet no government has *been able to halt what looks like the inevitable trend to*wards greater concentration in retailing—a trend which most economists would argue has resulted in a far more efficient *distribution system than the* old fragmented market-place. According to one set of figures, the number of shops in the 14 major European countries *fell by 350,000 to 3.4m. in the* ten years to 1975. Of those closed, 300,000 were in the food sector.

The one solution to the private trader's problems which does seem to have worked has come *not so much from govern*ment but from the trade itself in the form of the voluntary groups which now operate in most European countries—*though, interestingly enough,* not in the States, where the independent sector is still very strong outside the food business.

Governments, most notably perhaps the British, have been more successful in slowing down *one of the other trends which* have emerged in retailing over the last ten years—namely the move towards much larger stores built outside established shopping centres.

RETAIL SALES IN W. EUROPE 1975

	$bn.	Average sales per sq. ft. $ p.a.
EEC		
Belgium	17.8	240
Denmark	12.3	395
France	82.7	279
West Germany	109.1	279
Ireland	3.3	176
Italy	57.8	166
Netherlands	25.4	286
U.K.	56.5	170
Total	363.9	232
Non-EEC		
Austria	9.5	
Norway	8.7	
Spain	38.6	
Sweden	21.1	
Switzerland	16.2	
Total	94.1	

Source: Management Horizons (U.K.).

Most of the figures used in this survey have been provided by Management Horizons (U.K.) and the Euromonitor publication Retail Trade International.

Increased

Again, most countries within the EEC now have some restrictions on large-scale *shopping developments. But* despite these, the average store size has increased out of all recognition over the last ten years and the word hypermarket has become an accepted part of the retailers' vocabulary. In some countries like France, though, hypermarkets may have reached their optimum size. Many European towns are now ringed by new covered shopping *developments and while it could* be argued that these centres have merely added to over-capacity, the facilities they provide are often more in tune *with the shopping needs of to*day than those offered in the old centres.

The recession of the last few years has highlighted the problem of over-capacity for retailers in many parts of the world. With the volume of retail sales down in most markets in real terms—in Switzerland they have actually fallen in cash terms too—retailers have *found* they are fighting among themselves for a larger share of a smaller cake. The most vivid example of this has been the price war among *supermarkets in Britain but* retailers throughout the Western world have had to fight harder for sales.

The effect of this increased competition in many markets has been to accelerate the rate of store closure and to put pressure on profits. Admittedly retail chains in some countries had done very well indeed out of the boom years, so there was *in some cases some fat to live* on during the lean years. But in countries, like Germany and the U.S., there have been casualties which have resulted in long-established names going out of business. In most countries retailers have tried to cut back on staff, though in Europe distributors are employing more people than 10 years ago.

The response of some chains which have found themselves either under profits pressure in their home market or stuck for *sales growth* has been to look overseas. In Britain, Marks and Spencer, Mothercare, Boots, W. H. Smith and Habitat have expanded abroad with varying *degrees of success.* Among Continental groups, retailers like Carrefour have expanded right across the EEC and are now looking towards less-*developed—and less-fettered—*markets like Spain and Brazil for future expansion. Others, like Albrecht and Hugo Mann of Germany, have gone into the U.S., a move which once might have been regarded as taking coals to Newcastle.

In the early 1960s, when self service was only beginning to catch on as a method of selling in Europe, the traffic of retailing ideas across the Atlantic tended to be one way — eastwards. European retailers went to America for inspiration. They came back with ideas like the shopping centre, which they then tailored to their own needs.

To-day the traffic is if anything going the other way in terms of ideas for new kinds of shops. The Americans still lead in some areas. There are few European department stores to rival the best in America, for example, but it has been the Europeans who have developed *hypermarkets and the new kinds* of limited range discount stores. Some of these ideas may not suit the American market, given the very different structure of the country, but some U.S. retailers would admit now to being influenced by European developments.

It is in terms of new systems that America is now the source of most ideas for European retailers. Though fully computerised checkouts are still a *rarity in the U.S., the Americans* are further ahead than Europe in the introduction of standard product numbering. The idea of electronic funds transfer systems is also more advanced, though recent research in America has suggested that this may not bring all the advantages once hoped for.

Unlikely

Given the rising bill for physical distribution throughout the Western world and the consequent need to reduce the *costs involved in physically* handling products, it may well be that the greatest change in retailing over the next few years will be on this kind of behind-the-counter development rather than in the developments of completely new kinds of shops. Certainly it seems unlikely that the shops and retailing will change as dramatically over the next ten years as it has *over the past ten.*

Even so it is unlikely that any retailer who pioneers a successfully new concept in one country will be able to keep the idea from spreading to others. As James Jefferys, Secretary General of the Paris-based International Association of Department Stores, says: "Retailing is a business where monkey see what monkey do."

Almost by definition there are very few real trade secrets in retailing. Companies may not be prepared to reveal the most intimate details about their operations, like their profit mix, but if they hit on an idea which is good enough to attract customers it is difficult to keep it a secret from other retailers.

The Western world is not of *course a totally homogeneous* market so far as shopping is concerned. There are still *marked differences between* countries and relatively few *truly international* retail groups. The independents, for example, have held on far longer in France than in, say, Britain, while even within Europe the share of market taken by the Co-op, probably the world's largest retail organisation, goes from under 2 per cent. in the Netherlands to a mighty 17.2 per cent. in Sweden. Mail order barely exists as a *method of selling in some coun*tries but is very important in Britain and Germany.

Even inside countries there are marked differences between regions while, as the success of *such very different operations as* Kwiksave and Marks and Spencer shows, there is no single route to success. Despite the move towards greater concentration, the shopper still *demands variety and choice.*

In many countries that choice *looks like being provided by* fewer groups in the future. Consumers may bemoan the demise of the small shop, which in many countries is what gives retailing its character and colour, but unless they vote with their feet and use those stores, the trend towards greater concentration is likely to continue. The only thing likely to stop it is further government intervention.

Consumer spending under restraint

THE MAIN constraint on the growth of the retail business throughout the industrialised world in the past few years has been the slow expansion of output and living standards. And the prospects for the next year to 18 months are hardly any brighter than in the recent past.

This is in marked contrast to the experience up to the mid-1970s. Consumers' expenditure had increased at an average annual rate of 4½ per cent. in real terms between 1964 and 1974 in the main industrialised countries.

Retail sales are traditionally more volatile than consumer spending as a whole which also includes more stable items such as expenditure on housing, light and heating. In the early 1970s spending in shops grew rapidly in many countries with increases in the volume of sales of between 10 and 45 per cent. in the seven leading industrial countries between 1970 and 1973, according to figures compiled by the Organisation for Economic Co-operation and development. (These countries are the U.S., Canada, West Germany, France, Italy, the U.K. and Japan.)

REAL U.K. PRIVATE CONSUMPTION
(1976-78: per cent change on year)

	Real disposable income			Impact of changes in savings ratio on real private consumption			Real private consumption		
	1976	1977	1978	1976	1977	1978	1976	1977	1978
U.S.	3.9	3.9	4.7	2.1	0.6	−1.3	6.0	4.5	3.4
Japan	3.7	4.0	3.7	0.7	−0.2	0.5	4.4	3.8	4.2
West Germany	1.8	2.2	3.8	1.8	0.7	−0.5	3.6	2.9	3.3
France	3.2	1.9	2.9	1.7	0.8	0.2	4.9	2.7	3.1
U.K.	−0.4	−1.8	2.3	0.8	1.2	0.4	0.4	−0.6	2.7
Canada	5.6	1.9	3.1	0.5	1.0	0.4	6.1	2.9	3.5
Italy	2.5	0.6	1.7	0.7	0.9	−0.4	3.2	1.5	1.3
Major seven countries	3.3	2.9	3.9	1.6	0.6	−0.5	4.9	3.5	3.4

Source: Organisation for Economic Co-operation and Development.

Sales

In Japan, for example, the volume of retail sales by the late summer of 1973 was more than two-fifths higher than at the start of the decade. There was a rise in spending of about a third in Italy by the end of the year after a particularly sharp rise during the course of 1973.

In West Germany the rise in the volume of sales was 15 per cent. by the beginning of the year; since the general upturn petered out sooner there than elsewhere a sharp decline was clearly apparent by the autumn of 1973. In the U.K. the sales gain for a short-time was nearly 15 per cent. in the spring of 1973 but the average level of sales in the year was just over a tenth higher than in 1970 in real terms.

In the U.S., retail sales volume was for a couple of months about 18 per cent. higher than in 1970. There was a similar gain at one stage in Canada, though spending there was strengthening towards the end of 1973.

In general, however, consumer spending started to be squeezed from the end of 1973 onwards as living standards came under pressure after the oil price explosion of 1973-74. The subsequent recession both increased unemployment and held back the growth of real incomes in many countries as the terms of trade were adjusted between the industrialised oil-consuming countries and the oil producers.

However, as OECD figures show, real personal disposable incomes, the best guide to living standards, still grew in the seven leading industrialised countries during 1974 and 1975. Real disposable incomes increased by 0.7 per cent. in the seven main countries in 1974, with declines in the U.S. and Italy, but rises elsewhere. In 1975, real incomes rose by 2.6 per cent., though only as a result of tax cuts, and the U.K. was the only country to report a decline.

The impact of these movements in living standards was, however, partially offset by changes in the proportion of income saved. This meant that the growth of private consumption was different from what might have been expected.

An OECD analysis last year pointed out that "prior to the early 1970s the general trend in all major countries was for disposable incomes to grow more rapidly than private consumption and for savings ratios to rise. Savings ratios, however, have varied cyclically round this trend, growing more slowly or falling in the downswing and rising in the upswing, thus exerting a stabilising influence on demand. But savings ratios rose sharply in the 1974-75 recession."

This was particularly marked in countries, such as Italy and the U.K., with the highest rate of price inflation—a possible explanation for the rise—though an increase also occurred in West Germany. The result was that an overall rise in living standards of 0.7 per cent. in 1974 in the seven countries was limited to an increase of 0.5 per cent. in personal consumption and there was a similar impact in 1975.

In the upswing of the recovery, which started in most of the leading economies from the autumn of 1975 onwards, savings ratios declined—and quite sharply in the case of the U.S., West Germany and France. The result was that the growth of personal consumption outpaced the rise in real incomes by rates of 4.9 and 3.3 per cent. respectively in the seven major industrial countries in 1976.

The general recovery tended to slacken from the first quarter of 1977 onwards with investment still relatively sluggish in many countries. There was a marked reluctance by many governments, notably West Germany and Japan, to embark on major programmes of expansion for fear of the possible inflationary consequences, while other countries, such as Italy and the U.K., were engaged on stabilisation policies intended to remove current account deficits.

The result was a slower growth both in total output and in consumer spending in 1977 than in the previous year. This was reflected in consumer confidence surveys and in a general weakening in spending on consumer durables. Real disposable income rose by an estimated 2.9 per cent. in the seven leading countries, with the only decline in the U.K., and there was a 3.5 per cent. rise in real consumer spending.

But even though there had been a recovery in consumer spending in most major countries in 1976 and 1977 the level of retail sales was often only slightly higher than at the boom period of 1973. This was shown in comparisons with the start of the decade; the volume of spending in Japan last year was at best only 30 per cent. higher than in 1970, compared with a peak gain of over 40 per cent. in 1973.

The volume of retail sales by the end of 1977 was only a few percentage points higher than the 1973 peak in the U.S., though there was more significant growth in France.

Although most countries introduced tax cutting packages in the autumn of 1977, expectation at the start of this year was that consumer spending might be boosted solely in the first half.

In its December survey, OECD projected a 3.9 per cent. rise in living standards in the seven main industrial countries in 1978 with a rise in the savings ratio limiting the increase in consumer spending to 3.4 per cent.

OECD argued that savings ratios might edge upwards, notably in the U.S., where an increase towards the long-term trend level might more than offset the expected acceleration in the growth of personal disposable incomes."

"The possibility that, in response to rising unemployment and uncertainty about inflation, savings ratios could tend to rise faster than assumed cannot be excluded. At best the contribution of private consumption to the rise in real Gross National Product may be no greater than in 1977, but as the effects of the recent measures wear off, some deceleration through the year seems likely."

Since these forecasts were produced more than three months ago, many economists have admitted that on present policies the growth of total output and personal consumption could be even lower than projected by the OECD. But there are exceptions—in particular, the U.K. where at least a short-lived consumer boom is widely expected.

Peter Riddell
Economics Correspondent

Overseas ventures by U.K. retailers

THE ROAD to retailing fortune overseas has proved exceptionally hard for store companies in this country. There are the exceptions—Great Universal Stores has managed to build its non-U.K. profits up to around a fifth of total earnings while at Courts (Furnishers) the ratio is closer to two-fifths—but these afford only small relief from the sad fact that most retailers brave enough to step outside the British Isles have found the going very flinty indeed.

One graphic reflection of this pattern of trading is to be found in the fact that so many major retailers in the non-foods sector are wholly U.K.-orientated—or at least effectively so—with overseas operations so modest as to be almost invisible in a group context. Past failures have plainly had an adverse impact on Boardroom confidence when it comes to expanding overseas. But it is equally clear that any British shopkeeper starting to sell direct to the foreigner needs to learn a number of new tricks.

Retailing tends to have a strong national bias, with local tastes still a remarkably crucial factor in determining levels of demand despite the increasing sameness of the developed world. Retailers have to get to know their market at the ground level; the vision of U.K.-style retail chains expanding rapidly across Europe under the aegis of London has finally faded.

As a result British toeholds in retailing in overseas areas other than the developed Commonwealth economies are now much less ambitious and geared noticeably to local selling techniques. In France even Marks and Spencer has had to deploy changing rooms in its stores in contrast to its more utilitarian if price-conscious practices in this country.

In the year ended March 1977, Great Universal Stores made something like £22m. before tax from its overseas operations. The group's approach to its foreign retailing has always been a matter of stealth and slow consolidation rather than entrepreneurial dash. And its major areas of activity have a distinctly solid, Empire flavour.

About half of GUS overseas business lies in Europe but the accent there is firmly on mail order. Universal Versand is the second largest mail order company in Austria while Halens Postorder shares a similar sort of status in Sweden. In the Netherlands the group is the leader through Wehkamp. Where GUS has more direct selling operations on the Continent they focus mostly on France. There are Burberry-type stores in Paris, Lille and Lyon (there is also one in Brussels) plus a chain of 50 men's boutiques which is controlled via a 75 per cent. shareholding in Maison des "100,000" Chemises.

Force

Elsewhere the driving force behind GUS' overseas selling is South Africa where the group owns some 250 stores. These operate under a variety of names — Barons Furnishers, Excelsior, Meubels, Lewis Stores—and are mostly involved in furniture and general domestic appliances. There are 110 stores in Canada and the Australian chain runs to about 85 outlets. Once again the accent is furniture and appliances with the Canadian chain operating under names like Adams Furniture and Woodhouse.

Marks and Spencer's overseas turnover accounted for something like 1½ per cent. of the group total in the year ended March, 1977, the last published figures. The overseas divisions centre on Canada—where the company has a 58.5 per cent. shareholding in Peoples Department Stores—and Europe which turned in losses of around £500,000 in 1976-77. Having lost some £4m. in 1976-77, the M and S Canadian operations could well have moved out of the red for 1977-78. The results of that financial year are due early next month.

In Canada M and S—which earned pre-tax profits of £102.4m. overall in 1976-77 on sales of £1.06bn.—has a variety of retail outlets. There are around 70 St. Michael Shops plus a chain of 50 or so boutiques which trade under the name of D'Allairds. Peoples Department Stores also numbers around 50 outlets.

There are four M and S stores on the Continent. The group started in Paris with an opening in February 1975 which was followed almost immediately by a store in Brussels. These two outlets are now making a profit but Marks has been less fortunate with its operations in Lyon (opened in the autumn of 1975) which continues to lose money.

As a result of the Lyon outlet and the inevitable start-up costs accruing at the second Paris store, which came on stream last autumn, M and S is likely next month to unveil yet another unfavourable trading picture for its European operations. The company has not found it easy to transplant to France what in this country amounts to a very impressive retailing success story indeed. The tide is turning. But M and S has clearly had to lengthen considerably its views on the amount of time needed for Continental retail operations to move from tick-over situations to relative money spinners.

One of the more striking experiments in selling overseas is coming from the mother-to-be and baby care specialists Mothercare which moved into the American market two summers ago. At present the group's operations in the U.S. are losing money and are expected to continue to stay in the red until at least 1978-79. But the Mothercare management are budgeting for losses at this stage in laying the foundations of a major business in the biggest economy in the world.

Mothercare Stores Inc. (as it is now called) was acquired in July 1976 when it consisted of 114 small shops in some 27 States mostly retailing maternity wear. The management plans to concentrate initially [illegible] the North East corridor of the U.S. where the company [illegible] runs some 143 outlets. Mothercare is also pressing ahead [illegible] plans to operate on a mail [illegible] basis.

In Europe the company [illegible] represented in Austria, [illegible]land, Sweden, Denmark, [illegible]way, Switzerland and [illegible] Germany. For the first [illegible] months of the year just ended (March 31) profits from the Continent were showing a very sharp increase, leading observers to think in terms of a European profits contribution of around a tenth for 1977-78 as a whole. In the preceding year Mothercare made a group £11.95m. before tax on sales of £81m.

Elsewhere the retailing industry's connections with selling overseas remain fragmented and difficult to pinpoint. The problems of the Burton Group in France are extensively documented, with the company now running into its seventh year of consecutive losses from that part of the world. United Drapery Stores pulled out of the few Richard Shops that it had in North America a year or so ago: Boots has some modest operations in Canada.

In northern Europe retailing interests are operated by Austin Reed (in Holland and Sweden) while shoemaker Church has some outlets in Belgium. Both Audiotronics and Dixons have a stake in Europe.

Jeffrey Brown

British efficiency scores top marks

BRITAIN MAY not have had much to boast about over the past five years but there are those—and not all of them are over-zealous patriots—who believe that the country has much to be proud of in its retail industry.

Leading British retailers like Marks and Spencer and Mothercare score top marks for efficiency on any international league table. And while British shoppers may sometimes look longingly at the choice of shops on the Continent, the British distribution system has much to be said in its favour in pure economic terms.

The big multiple groups take a bigger share of the total retail cake in Britain than in any other developed country. They account in total for over 40 per cent. of British retail sales and the signs are that this share will continue to increase. Distribution companies—both at the wholesale and the retail level—tend to be larger than elsewhere in Europe and have more experience in large-scale mass distribution of consumer goods than their European counterparts.

Moreover, as the National Economic Development Council pointed out in its report in 1973, there is some evidence that the largest British retailers have been more profitable than those on the Continent. This, it concluded, probably had more to do with the larger scale of distribution organisations in Britain than with any difference in gross margins.

Since NEDO published its report, British retailers, along with those throughout the developed world, have of course been through the trauma of a recession. The hard times hit Britain relatively late in terms of consumer demand but when they came they took their toll among retailers.

Following a rapid rise in sales in the early 1970s, the trade has had to deal with three years in which consumer expenditure has fallen in real terms. Spending in 1977 was the lowest for five years and though in recent months retail sales have begun to pick up again they are still running almost 4 per cent. below their 1973 level.

Although the recession resulted in few major retail group failures—apart from in the trouble-torn menswear sector—it took its toll of profits. The cutback in spending, coupled with the impact of Government price controls in the year of the recession, meant that profits fell in real terms.

The effect of the recession was to accelerate many of the trends which had become evident in the boom days. Independent traders came under even more pressure from the multiples and the rate of closure is generally assumed to have increased. According to one estimate, the number of shops in Britain fell by a further 8.5 per cent. between 1971, the date of the last official census, and 1975.

Some of these closures were made by big groups like the Co-op, International Stores and Allied Suppliers, but many were privately run shops. The share of sales taken by independent shops has more than halved since 1962 and now stands at around 20 per cent.

During the same period, affiliated independents, like Spar and VG, have increased their share of the cake from 6.9 per cent. to over 15 per cent., though they have not made the inroads into non-food areas that they have in some other European countries.

U.K. RETAIL SALES
(per cent. shares)

	1962	1971	1976
Multiples	24.0	29.3	40.6
Department stores	4.5	4.5	5.0
Variety stores	4.3	5.8	5.0
Consumer co-operatives	10.2	7.1	7.3
Mail order	2.5	3.8	4.8
Affiliated independent multiples	6.9	10.0	*17.3
Independent retailers	47.6	39.5	20.0

* Estimate by Management Horizons.

Source: National Census, Distributive Trades EDC (U.K.), Retail Trade Europe and Management Horizons (U.K.).

Reversed

Since 1962 department stores have marginally increased their share to 5 per cent., as have the variety stores. The Co-op, which remains Britain's biggest single retailer, seems to have reversed the decline in its fortunes which resulted in its share falling from over 10 per cent. in 1962 to 7.1 per cent. in 1971. In 1976 the figure recovered to 7.3 per cent.

The decline in consumer spending, coupled with the unprecedented increase in stores costs, forced retailers to make economies and start exploring new ways of trading. Ideas which until three years ago had only been exploited in the cost-conscious North of England, like limited range discount stores and superstores, began finding their way south.

But though many of the food groups saw their salvation in building superstores in uncongested fringe sites, the planning authorities ensured that their development was very small compared to the rest of Europe. To-day such developments probably account for not much more than 2 per cent. of total retail sales, though the six of the new supermarkets has continued to increase to the extent to-day that it is now unusual for a food group to build a supermarket less than 15,000 square feet.

Despite these new developments, most groups have been faced with the problem of how to get more volume through their existing stores at a time of reduced total demand. As demand fell and consumers traded down, so competition increased. This was most evident in the food trade where last year Tesco stepped up the price war by dropping trading stamps and cutting its margins. Other supermarket chains have retaliated with margin cuts of their own and the overall effect has certainly been to delay any recovery in profits, if not actually to reduce them overall.

But it was not only in the food business that competition intensified. The development of specialist discount chains like Comet and Allied Carpets meant that the department stores were forced to fight harder for business, and some groups seemed to be having clearance sales for month on end. Meanwhile, the old divisions between different kinds of traders became more blurred as groups like Boots and Marks and Spencer started selling new kinds of merchanise in a bid to increase volume.

The poor state of the British economy did bring some small cheer to retailing. The depressed value of the pound resulted in a huge increase in sales to tourists. Those groups lucky enough to have stores in Central London were able partly to offset the lower volume in their provincial stores by notching up year-on increases of 60 per cent. or more in London.

The ability to offset lower sales in one part of the country in this way could of course be said to be a benefit of Britain's concentrated distribution set-up. The large national groups are able to spread both the capital costs and the effects of local competition over a wider base than smaller companies with all their eggs in one regional basket.

Supporters of the theory that Britain has a more efficient distribution system than most of its industrial competitors quote the performance of British retailers over the past few lean years as an example of this. They point to the fact that, outside the menswear business and the fairyland world of Biba, there have been no major casualties in British retailing, and that while profits have certainly fallen in real terms, the decline has not been as sharp as in some other countries.

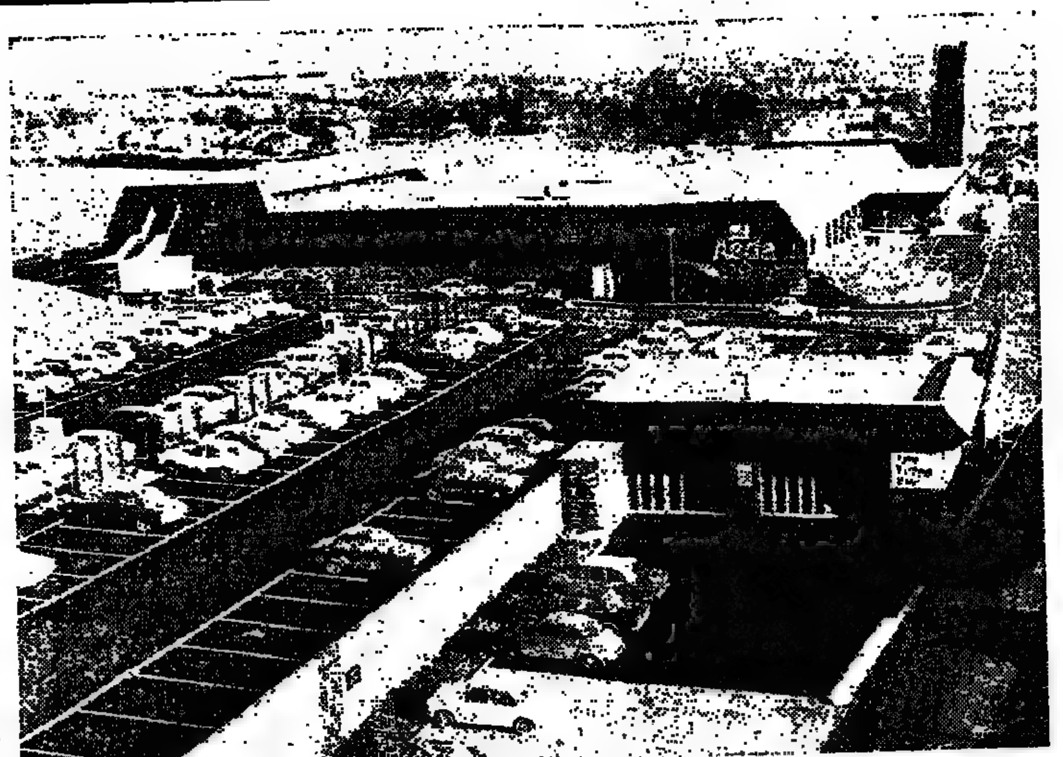
To some extent, this may be a reflection of the way the British groups are financed. On the Continent many of the big chains are still in private hands and rely heavily on bank finance whereas—with the major exception of Littlewoods—the big British retailers are publicly quoted companies and so less vulnerable to sudden surges in interest rates.

British retailers had already cut back on labour before the recession began to bite, partly as a result of the switch to Selective Employment Tax in 1966, so there was possibly less over-staffing than in some other countries. Certainly there were big redundancies—as in the case of the Debenhams department store group—but not perhaps of the level which might have been expected at a time of such depressed sales.

Moreover, while many people in the business decry the way in which Britain has fallen behind Europe and America in terms of the development of big new shopping centres, this tardiness has meant that Britain has not been faced with the kind of costly over-capacity which has dragged down some Continental groups' profits. Against this, of course, is the fact that many British groups are still operating in old-fashioned premises which do not fulfil the needs of the modern, car-borne shoppers, and which are very expensive to run. And if Britain has not created over-capacity by building new shopping centres, it still probably has too many shops.

The immediate outlook for British retailing is far brighter now than it has been for some time. Retail sales are expected to show a real increase this year—the first signs of this have already emerged—and retailers' costs should lag behind the rate of cash sales growth. Most City pundits are predicting an increase in profits except in the food sector, where the price war shows no sign of an immediate end. In the grocery business at least things look like being tough for some time to come.

Elinor Goodman



The Asda store in Plymouth.

RETAIL OUTLETS AND SALES AREAS IN W. EUROPE 1975

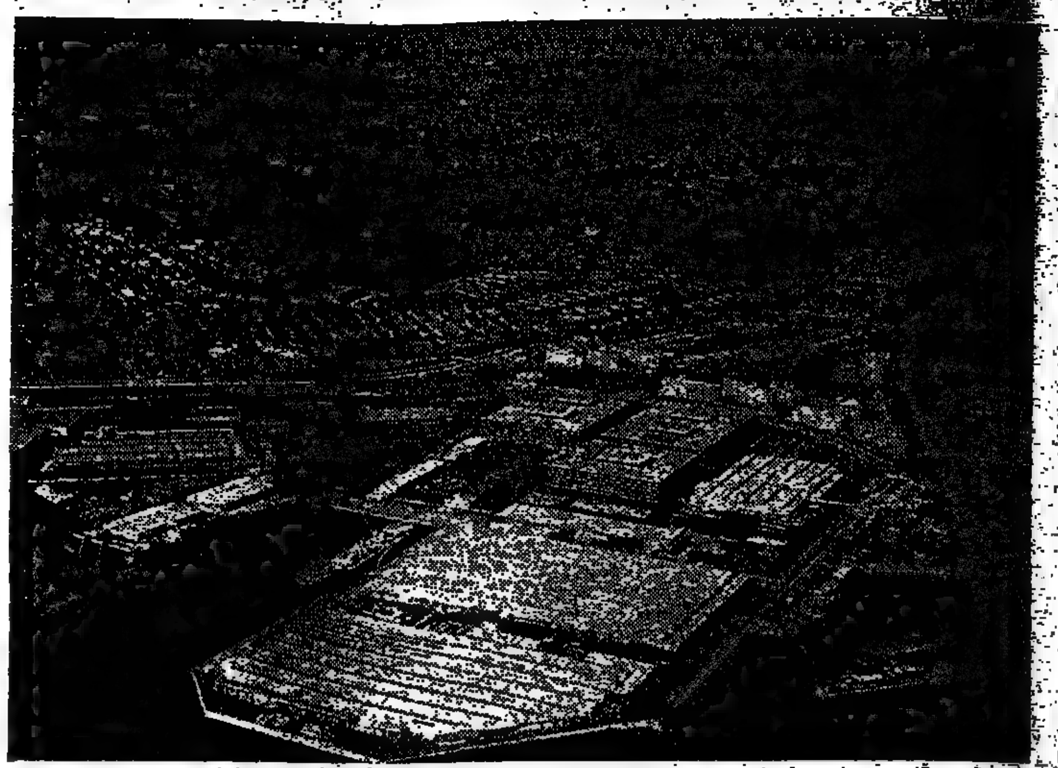
	Number of retail outlets	Total selling area (m. square feet)	Average size of outlet (square feet)	Outlets per 1,000 population	Sales area per 1,000 population (square feet)
Belgium	150,000	73.9	492	15.24	7,508
Denmark	57,900	31.2	539	11.39	6,130
France	530,000	296.0	558	10.01	5,590
Germany	550,000	391.0	711	8.88	6,308
Ireland	28,000	13.2	471	8.84	4,166
Italy	960,000	349.0	364	16.96	6,166
Netherlands	146,000	85.6	586	10.61	6,220
U.K.	527,000	333.0	632	9.41	6,000
Austria	42,300	—	—	5.60	—
Norway	33,200	—	—	8.25	—
Spain	391,800	—	—	10.94	—
Sweden	33,300	—	—	4.05	—
Switzerland	45,000	—	—	6.98	—

Source: National Retail Directories, Census and Management Horizons (U.K.)

On these two pages Elinor Goodman and John Wyles review developments in the U.S., Japan and some of the leading countries in Europe. There is a common thread, but also variations which in most instances are dictated by the differences in the individual structure of society.

Some major markets

Japan



The Datsun/Nissan Motor group's Hommoku wharf.

THE SHOPPING revolution which swept Europe and North America in the 1960s is only now beginning to reach Japan, and it is still by no means certain that it will manifest itself there in exactly the same way it has in other parts of the developed world.

As the Nikko Research Centre recently pointed out in a report on superstores, the labyrinth of the Japanese distribution system has a long history and its problems cannot be solved overnight. Japan's new industries, like cars and electrical appliances, have developed their own streamlined distribution systems but in older sectors, notably food and textiles, the lines of distribution are still very complicated.

In these sectors wholesalers are still extremely important. They themselves have very varied functions while beneath them operates a second tier of sub-contractors. In many cases the goods reach the shops only after having passed through the hands of three separate wholesalers. The length of this chain is demonstrated by the fact that the total volume of wholesalers is four times that of the shops.

The strength of the wholesale sector is partly a reflection of the way the retail market is organised (though it is difficult to say which is the chicken and which the egg). The small privately run shop is still a major force in Japanese retailing. The average Japanese shop still only has an average of 70 customers as against 100 to 140 in most Western countries.

Small neighbourhood shops are still very important in the food sector. The Japanese housewife still seems to buy perishable food at local shops in amounts only big enough to last a few days.

Each residential area has its cluster of local shops, many of them family-run and most of them determined to stay in business. According to the Nikko Research Centre, these shops are more interested in the stability of their income than in increasing profits. Consequently, when large supermarkets attempt to make inroads into an area served by the small retailers, the latters' resistance is strong. This in turn has led the government to enact legislation protecting the small shopkeeper.

Any retailer wanting to build a large store has to produce proposals which are ultimately scrutinised by all the local traders likely to be affected by the opening. The opinions of local department stores and small retailers are often respected and as a result the proposed selling space can be reduced by as much as 30 per cent. or even 50.

Similar

The response of the superstore operators has been similar to that of some companies faced with similar opposition in Britain. To-day superstores are offering to help small shopkeepers by assisting in the redevelopment of shopping areas as well as paying part of the cost of providing public utility facilities.

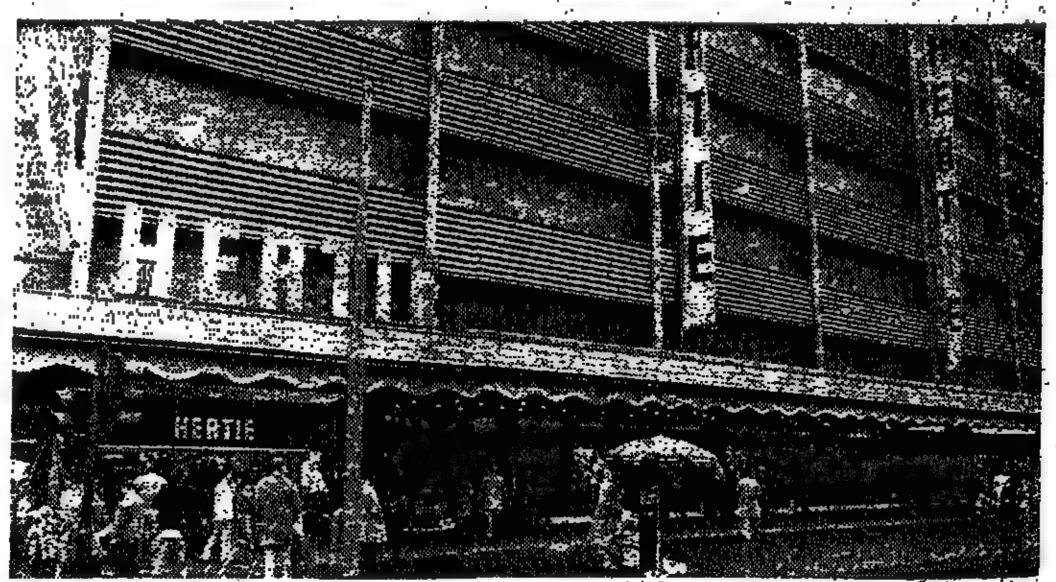
But despite the continued importance of the small shop in Japan, it is the supermarkets which are the big growth sector. According to figures from Euromonitor, the supermarkets chains increased their share of the market from 8.4 per cent. in 1972 to just under a quarter last year.

The department stores, long an important feature of Japanese retailing and for many years the major exponents of general merchandise selling, seem to have withstood this challenge well and actually increased their share of the market in the five years to 1977. But the 60s rather than the 70s were the boom period for Japanese department stores. Last year, for example, department store sales were basically flat in real terms while those of supermarkets continued to increase. As in Germany, some of the big department store groups have diversified into superstores.

The growth period for supermarkets basically coincided with the growth of the Japanese economy. Initially they tended to specialise in food and other basic household items but have gradually moved into consumer durables, leisure goods and other luxuries. Almost half their sales are now said to be in items other than food and clothing, and, as in Europe, many of the large stores are built on the fringe of cities.

The Japanese have invested heavily in new shops over the past few years and have raised money in Europe to finance this expansion. But despite all the changes it looks like being some time before all the trends which have been seen in the West manifest themselves in Japan. Certainly many of the seeds are there—and in the case of superstores and some uniquely Japanese forms of discounting—far more than seeds. But though the wholesalers may have to adapt their operations to new trading conditions, they are unlikely to lie down and accept the less significant role their counterparts have in many European countries without a fight.

West Germany



The Hertie shopping centre in Frankfurt.

A FEW YEARS ago a number of British food retailers started taking discreet trips to Germany to see what was going on there. The particular object of their curiosity was the rapidly expanding chain of discount stores trading under the name of Aldi. The group, started in 1948 by Karl and Theo Albrecht, was by the mid-70s vying with Tengelmann-Kaiser for the title of Germany's largest food retailer. But unlike most of Europe's other developing food chains, its stores were not large and it was this which appealed to British retailers looking for some way of keeping their small units trading.

The British liked what they saw and began to consider how they could develop the concept for their home market. The results were the new chains of limited range discount stores now being run by groups like Fine Fare as a means of increasing sales through small stores which probably would otherwise have had to be closed. These new chains, with their emphasis on keeping costs to the minimum, also owed much to the inspiration of the successful British discount chain, *Kwik-save*, but the companies behind them preferred to acknowledge their German parentage.

It is not only in this particular form of discount trading that Germany has gone out on its own. An unusual feature of the German market is the *Verbrauchermarkt* or consumer market—the mini hypermarkets which range in size from 1,000 sq. metres (about the cut-off point for an Aldi) to 2,500 sq. metres, and offer discount prices on a wide range of both groceries and non-foods.

According to figures produced last year by MPC, Germany has more hypermarkets than any other European country. This is perhaps not surprising in view of the fact that Germany is the biggest market in Europe for retail sales. But for a foreigner, the German market is a curious blend of the familiar and the unusual in terms of retail trends. According to Euromonitor, the German retail scene is characterised by a high degree of efficiency and organisation. Yet it is also one of the countries where retailers have suffered most markedly from the effects of the recession.

Late

The development of modern retail trading techniques came relatively late in Germany. As recently as the late 1960s most retailers were single-line traders and department stores were the only widespread general selling concept. But once started the new trends caught on fast. As in most other developed countries, self-service stores have grown by leaps and bounds and the number of independent traders has declined sharply. In the boom years of 1972 and 1973 new shopping centres were being built at the rate of ten or 12 a year.

But despite the development of these new forms of retailing, some of the established features of German retailing have proved to be surprisingly resilient. Despite their problems, German department stores still account for around 10 per cent. of total retail sales—a higher figure than in most other countries. The sales of the big department store groups like Karstadt and Kaufhof dwarf those of retailers in other countries. The companies have not sat back and watched the new kinds of shops eat into their traditional territory but diversified into these areas themselves—albeit not always very profitably.

It has been the department store sector and the mail order companies—with an unusually high penetration in Germany—which have attracted the headlines over the past few years as far as the financial news is concerned. The takeover of the ailing Neckermann group by Karstadt has been well documented but this has not been by any means the only merger to have taken place over the last few years.

As in Britain, the big groups have been struggling to increase their sales in real terms. In some ways it could be argued that their problems had been made worse by all the new capacity which had been created during the boom years.

For the moment, however, new development seems to have slowed down. Groups like Karstadt are continuing to open new stores but it is becoming more difficult to start really big new developments—partly because of new planning regulations and partly because of a shortages of good sites.

RETAIL TRADE BY FORM OF ORGANISATION

(Per cent. shares)

	BELGIUM			IRELAND			ITALY			NETHERLANDS		
	1962	1971	1976	1962	1971	1976	1962	1971	1976	1962	1971	1976
Multiples	4.0	9.9	14.8	6.0	10.2	*14.6	1.3	3.0	5.5	17.6	20.3	28.2
Department stores	3.9	3.9	*9.0	5.5	6.6	*6.5	0.4	0.5	4.6	3.3	4.8	5.5
Variety stores	4.2	4.3		1.0	*1.7	*2.8	1.7	3.4		1.0	1.5	
Consumer co-operatives	3.0	2.4	1.3	7.0	*7.0	7.5	1.3	1.7	2.5	1.7	1.6	1.2
Mail order	0.5	0.5	1.2	—	—	—	0.1	0.2	0.3	0.6	0.9	0.9
Affiliated independent multiples	6.8	7.0	7.8	5.3	*5.5	7.0	2.0	5.6	8.5	20.0	24.7	31.4
Independent retailers	77.6	71.7	*65.9	75.2	69.0	61.6	93.2	85.6	78.6	55.8	46.2	32.3

* Estimate by Management Horizons.

Source: National Census, Distributive Trades EDC (U.K.), Retail Trade Europe and Management Horizons (U.K.).

Sergels Torg, the square in the modern centre of Stockholm.

Scandinavia

AS A highly urbanised country, Sweden has often led the way in the development of new forms of retailing. Many of the changes which have taken place in the structure of Swedish retailing have emerged later in other countries.

The first hypermarket was built in Sweden as long ago as 1962, while self-service has made bigger in-roads into Swedish retailing than in practically any other country even furniture is sold on a self service basis.

At the same time new forms of small convenience stores have sprung up which sell a wide range of goods but stock very few things in depth. Another novel development has been the opening of outlets by manufacturers and wholesalers to sell their own specialist products. They offer single-line commodities at heavily cut prices.

Many of these ideas have been developed by retailers in other countries. But the Swedes themselves have taken some abroad. The discount furniture chain Ikea, for example, has shops in five European countries as well as in Canada, while Hennes and Mauritz, the largest specialist retailer in Sweden, has already expanded into Norway and Denmark and is now beginning to open its first shops in Britain.

According to Euromonitor's publication Retail Trade International, the end of retail price maintenance in the 1960s, coupled with the urban nature of the country, made Sweden the perfect breeding ground for the large organised retailer. Given the amount of consumer protection legislation in Sweden, not all its traders would agree this view, but the end of RPM was certainly followed by the emergence of a few powerful retail groups and an acceleration in shop closures.

As in other European countries, the closures were particularly marked in the food trade as the small independent traders went out of business. The number of food shops was halved between 1963 and 1975—a trend which as it continues has begun to make the Government concerned about how to provide shopping facilities in rural communities.

One of the novel aspects of the Swedish retail scene is the development of "co-operation" in the widest sense of the word. This has manifested itself in two ways. At one end of the spectrum retailers have co-operated among themselves to form voluntary groups which now account for about a quarter of all retail sales—a far higher penetration than in most other countries. Most are retail-owned rather than, as in Britain, operated by wholesalers.

At the other end are the traditional consumer-owned co-operative societies. Though their life has not been made easy by the development of privately run multiple chains, they have managed to hold on to a share of the market which is the envy of Co-ops in other countries.

Claimed

In 1976 the Swedish co-operative movement claimed to have taken 17.8 per cent. of total sales and it announced that it was hoping to increase this to 19.1 per cent. by 1980. As well as running department stores like the Domus chain, the Swedish movement operates superstores and has developed some ideas which could well be copied by co-operative societies in other countries. Recently, for example, about 20 of the 190-odd societies linked to Konsum-Kooperativa Forbundet, announced that they were to start issuing membership cards to their members. Card holders will be offered special discount prices on selected lines.

Elsewhere in Scandanavia there has been a similar move towards greater concentration in retailing, though in neighbouring Denmark the move came relatively late. While independent retailers in other countries faced growing competition from larger companies, the small trader in Denmark remained protected by Government legislation. In 1970, however, the law which effectively limited the number of shops a retailer could operate was repealed, and since then there have been major changes in the retail structure.

Predictably, store closures have accelerated and multiple groups like Irma have grown up. As in Norway, where in the opinion of some, the voluntary group movement is the most effective in Europe, independent retailers have formed their own associations.

But if Scandinavia has an efficient retailing structure, it has not escaped the effects of the recession—though in the case of Denmark the brakes did not come on until the end of last year. In the last quarter of 1977 sales in both Denmark and Sweden were very depressed and retailers were experiencing much the same problems their counterparts in other parts of Europe had suffered in the previous two years.

France

SHOPPING in France is like travelling in a time machine from one end of the 20th century to the other. At one end of the spectrum are the kind of shops which delight the foreign visitor—the local patisserie, overflowing with delicacies which look as if they have been hand-made to sabotage the waist-line or the boutiques where the level of personal service can be almost overpowering. At the other—sometimes within five minutes' walk of the small specialist shops — are examples of the kind of huge modern retailing development which are the pattern for the future and the envy of retailers throughout the world.

France is a land of paradoxes as far as retailing is concerned. For the past ten years or so the country has led the world in the development of new forms of shopping. The hypermarket concept may have originated in Scandinavia but it is the French who are acknowledged leaders in the field. To-day there are 350 hypermarkets in France.

Normally situated outside towns, these monster stores are now estimated to account for around 10 per cent. of total French retail sales. Their operators, like Carrefour, have exported the idea around the world and it is to France, rather than America, that those looking for inspiration about large-scale developments now turn.

Similarly, the French have developed the regional shopping centre concept further than most other countries. Paris is now surrounded — some would say strangled—by a ring of vast new covered shopping centres, like Parly 2 and Rosny 2, which cater primarily for the car-borne shopper and which in most cases have managed to create an attractive new shopping environment.

Alongside these new developments, however, the independent trader has managed to hold onto a bigger share of sales than in almost any other developed country. Partly because of the highly discriminating character of the French consumer and partly because of the political clout of the small shopkeeper, the independent sector still accounts for around 60 per cent. of total sales.

According to figures produced by Euromonitor, this share has actually increased over the last five years despite the many closures in the food business. The regional retail structure has helped the small trader and hindered the multiple—though recently there have been signs of regional groups like Casino moving out of their traditional territories and into the rest of France.

The huge shopping developments opened over the last 10 years have of course taken business from some of the established operators. French magazines talk about the crisis in department stores which, like the variety chains, have been squeezed not only by the opening of hypermarkets selling a wide range of non-food items but also by the development of specialist discount chains.

Most of the department store groups have moved into hypermarket trading (Au Printemps, for example, is associated with Euromarche, the third largest hypermarket operator) as well as opening new stores in the regional shopping centres. But the expansion has not been without its problems. Au Printemps for example recently closed its department store in the Creteil centre.

Looking to the future, most French retailers seem to think that the country is beginning to reach saturation point as far as large-scale developments are concerned. The law in any case militates against such developments and even if the rate of closure among independents begins to pick up there still looks like being over-capacity in French retailing for some time to come.

United States

THE U.S. retailing scene has a particular fascination no matter what interest is in the eye of the beholder. The casual shopper can find an impressive variety of price and product and standards of display in big city department stores which testify to a great deal of imagination and thought. The investor will find a range of stocks offering him both yield and growth while the industrial analyst can see a business sector in transition where managerial emphasis is weaning towards growth by acquisition rather than the development of original outlets.

Historically, U.S. retailing appears to have exhausted most of the rich opportunities associated with the steady move to the suburbs of the American middle class. During the 1960s chain stores, regional department stores and discount houses dominated the suburban shopping centres which characterise the American consumer's way of life. Competition for business became intense, and in recent years and recession and eroding profit margins have seen the disappearance of such well-known names as W. T. Grant, Robert Hall, Arlens, Topps and White Front.

During the last few months the fight for market shares between the discount houses, the chain stores and the department stores has intensified. Most notable has been the aggressive pricing policy adopted by Sears Roebuck, the world's largest retailer. Until about ten years ago, Sears' reputation rested on its sales of good quality, relatively low-priced merchandise. However, this was sacrificed in a move to widen margins and to exploit increasing consumer affluence. Moreover, the low price end of the market was becoming extremely crowded with discount houses—with K Mart in particular proving to be one of the most aggressive and successful.

Embark

This company's sales stood at a modest $500,000 in 1962, had risen to $3bn. by 1971 and were close to $10bn. last year. Sears, whose net sales in 1977 were $17.2bn., decided early last year to embark on an ambitious price-cutting programme to lure customers back from K Mart. Profit margins were reduced and it was hoped that higher volume would more than compensate.

For nine months of the year it did, but the plan went badly awry in the final quarter when the company's sales actually rose 13 per cent. but earnings fell 20 per cent. from the corresponding period the year before. This deeply embarrassed the company's management which conceded that its price promotions on consumer durables and home improvement items were "too deep, too long and too frequent."

It is by no means clear how much of the market Sears was able to take away from the discount houses since consumer spending, the wheel which keeps the U.S. economy turning, has proved extremely buoyant during the past year. It has to remain so for the Carter Administration to achieve its hoped for 4.5 to 5 per cent. growth in real Gross National Product this year. By the end of March Sears had posted a 12 per cent. year-to-year sales gain, K Mart 16 per cent., J. C. Penney 22 per cent. and Woolworth 15 per cent.

These advances went a considerable way towards offsetting a weather-depressed January and February and sustained hopes that the retailers would have a good spring sales period.

It will take place against the background of a bitter battle for clothing sales, particularly fashion wear. Again K Mart sent a tremor through the industry by radically improving the fashion content of its women's wear departments and then J. C. Penney, which is not traditionally viewed as a fashion store, launched a determined national effort to boost its sales of women's clothing by displaying branded goods familiar to department store shoppers.

According to Mr. Bernard Sosnick, retail analyst with L. F. Rothschild Unterberg, Towbin, Penney is likely to be successful in making inroads into the department stores' market share, "and with its new strategy, the battle between the chains and the department store is out of the basement and on to the main floor."

Mr. Sosnick believes that catalogue chains like Sears and Penney will have considerable resources to bring to bear in their attack on fashion sales. Quite apart from the catalogues themselves, they enjoy the advantages of shopping centre locations, high volume purchasing and the ability to advertise nationally on TV and in magazines.

Mr. Sosnick is not alone in believing that conventional department stores face a difficult future and that some may not be equal to the challenge. Professor Walter Salmon of the Harvard Business School argues that these stores have lost many of the advantages they used to enjoy. The development of shopping malls means that they are no longer the only place for "one stop" shopping and the widespread availability of credit cards means that they are not the only source of credit for the shopper.

Professor Salmon believes that to counter the loss of market share department stores will expand into "ego"-related businesses such as speciality retailing. Some of this expansion will probably occur through acquisition, and he cites Dayton Hudson as a company moving in this direction through its purchase of bookselling and jewellery operations.

John Wyles

RETAIL TRADE BY FORM OF ORGANISATION

(Per cent. shares)

	Denmark			West Germany			France		Sweden	
	1962	1971	1976	1962	1971	1976	1962	1971	1971	1976
Multiples	3.1	6.0	10.0	9.1	14.6	19.0	8.6	15.2	10.0 (Multiples, Department Stores and Variety Stores)	3.9
Department Stores	3.5	3.6	6.0 (Department and Variety Stores)	6.5	8.8	10.5 (Department and Variety Stores)	3.3	4.2		10.9 (Department and Variety Stores)
Variety Stores	—	2.0		1.2	1.5		4.2	5.3		
Consumer Co-operatives	10.3	11.4	8.5	3.1	2.8	3.1	2.6	2.9	18.6	17.2
Mail Order	0.1	0.2	0.2	3.5	4.7	5.0	0.7	1.1	1.4	1.9
Affiliated Independent Multiples	13.5	16.7	20.0	34.5	39.6	40.7	11.6	15.6	—	—
Independent Retailers	69.5	60.1	55.3	42.1	27.8	21.7	69.0	55.7	70.0	68.1

Source: National Census, Distributive Trades EDC (U.K., Retail Trade Europe and Management Horizons (U.K.).

Electronic systems for stock control

A MAJOR problem confronting retail managements in Europe to-day, in the light of increased stockholding costs, is how to walk the tight-rope between keeping stocks at their lowest and most economic level and at the same time avoiding disastrous out-of-stock situations—the best way of sending customers to the rival supermarket round the corner

The answer, of course, lies in improved management information systems, and particularly in capturing rapid up-to-date and detailed information on sales which can automatically and swiftly be related to stock replenishment. The application of electronic data processing to retailing, and more particularly to the point of sale, has been one of the major management techniques in retailing in Europe over the past few years. And the use of technological devices such as scanners incorporating laser beams has been accelerated by the development of the bar-coding system, which contains information on the product's country of origin, the name of the manufacturer and the product line.

But when the system was introduced into the U.S. some two and a half years ago results were not particularly happy. American retail managements were more concerned with the reduction of labour costs than stockholding costs, and conflict with labour unions over this issue delayed development of the system. In addition, since bar-coding invariably means an absence of individual price-marking, American managements also found themselves up against the consumer lobby. As a result, as recently as the beginning of this year only some 200 of American supermarkets were using fully-developed point of sale computer-linked systems.

Language

Nevertheless, over the past few years the European Article Numbering Association has been set up essentially to offer a number system to the twelve European signatory countries which will provide a common language so that the computers of grocery manufacturers and retailers can communicate. In January of this year the Article Numbering Association in this country — a body made up of retailers, manufacturers and wholesalers — announced the launch of the Article Number Bank, which allocates specific numbers to manufacturers' products.

In line with this system several of the major computer manufacturers have sold a number of sophisticated point-of-sale systems to retailers in Europe. Sweda and NCR are two of the leading companies in the field.

Sweda numbers among its customers two Carrefour hypermarkets in France and two in the U.K.; the Rinascente department store group in Italy; the supermarket group Albert Heijn in Holland; and the German cash and carry group Ratio. Sweda has also been active on the American front, selling systems to Bradlee's department store group in Massachusetts, Woodward's department stores in Vancouver, and installations in Mexico and Brazil.

NCR has been busy in Scandinavia; one of its latest contracts is with the department store group Magasin du Nord, which has six stores in Denmark. Over the next couple of years a total of 650 NCR 2151 POS terminals will be installed in the six stores, and each store will have its own NCR 725 mini-computer. Early last year the supermarket group Irma, the second largest retail company in Denmark, installed an NCR 255/726 computerised checkout system with laser beam scanners built into the checkouts. NCR has also supplied the Swiss department store group Jelmoli and the German store group Karstadt. The company also has a number of installations in Britain.

But there is growing scepticism about article numbering and particularly about its use in relation to POS systems. Grocery suppliers respond to the euphoric talk about the benefits of "computers speaking to computers" with more than a touch of weary cynicism, suspecting (not without some justification) that this is yet another "spectacular development" in the food industry which would require from them a contribution to the costs while providing them with less benefits than the retailer.

At the Article Numbering Association conference in London in January major suppliers such as Birds Eye and Proctor and Gamble made it clear, amid the surrounding proselytisation, that they were prepared to undertake bar-code printing only in conjunction with their normal packaging-design programme. That, they warned, would mean a time-lag of at least three years.

Some major retailers, too, although accepting the need for up-to-date sales information, view with alarm the high cost of electronic systems at point of sale, which can amount to about £3,000 per check-out. They are aware that source data can be captured in a number of different locations in the retail system, and not just at the point of sale.

Some retail companies—Sainsbury was one of the first—are installing general purpose data entry terminals which are one quarter the cost of a fully computerised system and can provide up to 90 per cent. of the information. Systems such as this still offer all the main computer-orientated facilities, such as wand reading of OCR (Optical Character Recognition) or magnetically encoded merchandise tags, transmission of data by telephone lines, and even automatic data polling by the computer of each shop location during the night. So the full advantage of a daily stock control system can be gained at considerably lower investment cost.

MSI Data Corporation is one of the principal manufacturers of portable data entry terminals, designed to be carried round a store to record sales, either keyed-in manually or through a wand scanner which reads a bar-code shelf label. The terminal is then coupled to an ordinary telephone and the information is automatically transmitted to a computer centre or warehouse. The system is capable of being used by small independent retailers if they are ordering principally from one supplier—as in the case of symbol groups.

Command

MSI claims to command 80 per cent. of the portable data entry terminal market, with 63,000 terminals installed in 18 countries. Among European countries it has shelf-edge order entry systems in the Belgian superstore company Grand Bazar (part of GB-Inno-BM), in the French Co-ops of Champagne, Lorraine and Valance, and in the 80-strong French supermarket group SAPAC. In Germany, it has terminals in the Schmidt supermarket group, and in Italy is represented in three out of five of the country's major supermarket companies—SGS, Supermarkets Italiani, and Supermercato PAM—with 200 terminals distributed throughout all three. All of these systems are operated by manually keyed-in information; but the latest development is in the PAM supermarket in Venice, where there are UPC shelf labels read by a wand scanner.

In America MSI claims to have 17 out of the top 20 supermarket companies using MSI terminals for branch re-ordering and transmission of orders to their data centres. These include A and P, Kroger, Jewel and Grand Union. In this country the UBM Group (builders' merchants) use MSI terminals which are reported to have improved warehouse service levels by 15 per cent. and to have cut branch stocks by a third.

But in Britain there is no uniformity of attitude on the part of retailers over the pros and cons of POS terminals. Tesco, which has just spent £6m. with IBM on computers, is going to start full-scale computer-linked POS trials over the next two years, and is fitting out its Wellingborough store with 16 IBM 3663 registers. On the other hand Carrefour, with two fully-computerised POS Sweda systems in its hypermarkets at Minworth and Eastleigh, is changing its approach for its Bristol hypermarket to be opened next month. Here it will be using the Sweda L range of non-computerised registers at the 50 checkouts, a system which is costing Carrefour only about 40 per cent. of a totally computerised on-line system, yet getting as much information, according to managing director Peter Stubbs, as can be usefully handled.

Edward McFadyen

Editor, Retail and Distribution Management

One of the 48 NCR terminals at one of the checkouts at the Migros store in the Glatt shopping centre at Zurich in Switzerland. The terminals are linked to an NCR in-store mini-computer for price look-up and management information.

MSI portable data capture terminal.

INSURANCE, PROPERTY, BONDS

AUTHORISED UNIT TRUSTS

OFFSHORE AND OVERSEAS FUNDS

Eagle Star Insur/Midland Ass.
Threadneedle St., EC2. 01-588 1212
Eagle/Mid. Units ... 47.5 49.3 −0.3 6.32

Equity & Law Life Ass. Soc. Ltd.♥
Amersham Road, High Wycombe 0494 33377

Equity Fd.	104.1	109.5	−0.4	—
Property Fd.	102.8	108.2	.....	—
Fixed Interest F.	105.8	111.3	+0.4	—
Gtd. Deposit Fd.	98.2	103.3	.....	—
Mixed Fd.	104.0	109.4	−0.1	—

Nelex Eq. Cap.	76.0	80.0	.....	—
Nelex Eq. Accum.	104.0	109.4	−1.9	—
Nelex Money Cap.	60.2	63.3	.....	—
Nelex Mon. Acc.	63.2	66.5	.....	—
Nelex Gth Inc Acc.	47.0	49.4	.....	—
Nelex Gth Inc Cap.	46.6	49.0	.....	—

Next sub. day April 25.

Nel Mxd. Fd. Cap.	47.5	50.0	.....	—
Nel Mxd. Fd. Acc.	47.5	50.0	.....	—

For New Court Property see under Rothschild Asset Management

FINANCIAL TIMES STOCK INDICES

—	Apr. 14	Apr. 13	Apr. 12	Apr. 11	Apr. 10	Apr. 7	A year ago
Government Secs.	71.60	71.53	72.75	73.60	73.92	73.95	68.94
Fixed Interest	75.13	75.31	76.49	77.03	77.25	77.41	69.73
Industrial Ordinary	447.4	452.9	460.2	470.4	463.3	467.1	416.5
Gold Mines	147.0	150.9	151.4	152.3	150.7	153.0	120.8
Ord. Div. Yield	6.01	5.95	5.87	5.75	5.82	5.77	5.49
Earnings Y'ld%(full)(*)	17.69	17.36	17.14	16.80	16.99	16.86	16.79
P/E Ratio (net)(*†)	7.80	7.94	8.05	8.21	8.12	8.18	8.73
Dealings marked	4,930	5,820	5,180	4,244	4,662	4,971	4,937
Equity turnover £m.	—	80.47	78.71	42.10	48.19	65.02	62.28
Equity bargains total	—	14,785	14,425	10,518	11,102	11,522	12,559

10 a.m. 453.1. 11 a.m. 452.4. Noon 448.6. 1 p.m. 449.8.
2 p.m. 448.9. 3 p.m. 446.3.
Latest Index 01-246 8026.

* Based on 52 per cent. corporation tax. † Nil=7.75.

Basis 100 Govt. Secs. 15/10/26. Fixed Int. 1928. Ind. Ord. 1/7/35. Gold Mines 12/9/55. SE Activity July-Dec. 1942.

HIGHS AND LOWS — S.E. ACTIVITY

—	1978 High	1978 Low	Since Compilation High	Since Compilation Low		Apr. 14	Apr. 13
					—Daily		
Govt. Secs.	78.58 (3/1)	71.50 (14/4)	127.4 (9/1/35)	49.18 (3/1/75)	Gilt-Edged	177.9	209.1
					Industries	170.6	200.2
Fixed Int.	81.27 (9/1)	75.13 (13/4)	150.4 (28/11/47)	50.53 (3/1/75)	Speculative	33.9	50.8
					Totals	112.2	152.5
					5-day Av'rage		
Ind. Ord.	497.3 (5/1)	433.4 (2/3)	549.2 (14/9/77)	49.4 (26/6/40)	Gilt-Edged	185.1	185.7
					Industrials	170.9	170.7
Gold Mines	168.6 (6/3)	130.3 (5/1)	442.3 (22/5/75)	43.5 (26/10/71)	Speculative	31.7	30.9
					Total	113.1	113.2

FINANCIAL TIMES STOCK INDICES

—	Apr. 14	April 13	April 12	April 11	April 10	April 7	A Year ago
Industrial Group	194.13	195.85	199.07	202.76	200.95	202.17	166.14
500 Shares	214.29	215.84	219.22	223.15	221.36	222.46	190.11
Div. Yield pc	5.84	5.79	5.70	5.60	5.65	5.63	5.79
P/E Ratio (net)	7.61	7.67	7.79	7.93	7.87	7.92	9.47
All Shares	198.46	199.82	203.18	206.41	205.19	206.20	175.41

Kemp-Gee Management Jersey Ltd.
1, Charing Cross, St. Helier, Jersey. 0534 73741

Kemp-Gee Capital	80.1	86.7	.....	—
Kemp-Gee Income	64.1	68.2	.....	8.27

World Wide Growth Management♥
10a, Boulevard Royal, Luxembourg.
Worldwide Gth Fd | $US13.16 | +0.02 | —

NOTES

Prices do not include $ premium, except where indicated ♦, and are in pence unless otherwise indicated. Yields % (shown in last column) allow for all buying expenses. a Offered prices include all expenses. b To-day's prices. c Yield based on offer price. d Estimated. g To-day's opening price. h Distribution free of U.K. taxes p Periodic premium insurance plans. s Single premium insurance. x Offered price includes all expenses except agent's commission. y Offered price includes all expenses if bought through managers. z Previous day's price. ♥ Net of tax on realised capital gains unless indicated by ♦. ¶ Guernsey gross. ‡ Suspended. ♦ Yield before Jersey tax. † Ex-subdivision.

CORAL INDEX: Close 446-451

INSURANCE BASE RATES

† Property Growth ..... 8 %
† Vanbrugh Guaranteed 7.75%
† Address shown under Insurance and Property Bond Table.

FT SHARE INFORMATION SERVICE

**BRITISH FUNDS

Interest Due		Stock	Price £	Last xd	Yield Int.	Yield Red.
		"Shorts" (Lives up to Five Years)				
14J	14Ju	Treasury 10½pc '78‡‡	100⅜	5.12	10.42	7.19
26M	26S	Exch. 5pc '76-78‡‡	99⅛	17.2	5.04	6.97
9M	9S	Treasury 11½pc '79‡‡	102⅞	[illegible]	11.18	8.06
17M	17S	Treasury 3pc '79‡‡	95⅝	6.2	3.14	6.44
26M	26S	Electric 4¼pc '74-79	96⅛	17.2	4.42	7.10
1M	1N	Treasury 10½pc '79‡‡	101¾xd	[illegible]	10.32	9.24
15M	15N	Electric 3½pc '76-79	95¼xd	10.10	3.67	6.63
3M	3S	Treasury 9pc 1980‡‡	99⅛	[illegible]	9.08	9.53
14M	14N	Treasury 9½pc '80‡‡	99⅞xd	10.10	9.51	9.59
15J	15D	Treasury 3½pc '77-80	92¾	8.11	3.77	7.17
15J	15D	Funding 5¼pc '78-80‡‡	94¾	8.11	5.54	7.93
25M	25N	Exchequer 13pc 1980‡‡	105½	19.10	12.32	10.51
15J	15Ja	Treasury 11½pc 1981‡‡	102½	9.12	11.22	10.40
15F	15A	Treasury 3½pc 1979-81	89¼	9.1	3.92	7.79
1A	1O	Treasury 9¾pc 1981‡‡	99	23.2	9.85	10.15
12J	12D	Exch. 8¼pc 1981	95	—	8.68	10.12
4F	4A	Exch. 9¾pc 1981	98	29.12	9.69	10.22
21F	21A	Exch. 3pc 1981	86¾	16.1	3.46	7.55
17M	17N	Treas. Variable '81‡‡	96¼xd	11.10	6.38	7.70
23M	23N	Exch. 12¾pc 1981‡‡	105⅞	17.10	12.05	10.75
15J	15Ja	Treas. 8½pc '80-82‡‡	95	9.12	8.95	10.12
15F	15A	Treasury 3pc '82‡‡	84	9.1	3.57	7.91
16M	16S	Treasury 14pc '82‡‡	110⅛	7.2	12.71	10.72
15J	15D	Treas. Variable '82‡‡	95⅝	8.11	6.79	7.74
5J	5Ju	Treasury 8¼pc '82	92⅞	1.12	8.88	10.37
22M	22S	Exch. 9¼pc 1982	95⅜	13.2	9.70	10.56
5Ju	5J	Exch. 8¾pc 1983	93⅜	—	9.37	10.55
21F	21A	Exch 3pc '83	80¾	16.1	3.71	7.84
17M	17S	Treasury 12pc 1983‡‡	105¼	6.2	11.40	10.59
		Five to Fifteen Years				
18J	18Ju	Treasury 9½pc '83	96¾	12.12	9.79	10.64
15J	15Ja	Funding 5½pc '82-84‡‡	84½	9.12	6.62	9.36
10J	10Ju	Treasury 8½pc '84-86‡‡	92	5.12	9.47	10.38
1M	1N	Funding 6½pc '85-87‡‡	79¼xd	28.3	8.18	10.00
26J	26Ja	Treasury 7¾pc '85-88‡‡	83¾	20.12	9.45	10.76
1J	1Ju	Transport 3pc '78-88	61⅞	28.11	4.92	8.89
15A	15O	Treasury 5pc '86-89	65¾	9.3	7.61	10.11
15J	15Ja	Treasury 13pc 1990‡‡	107¼	9.12	12.50	12.34
13J	13D	Treasury 8¼pc '87-90‡‡	82¼	8.11	10.36	11.40
10J	10Ja	Treasury 11¾pc 1991	98¾	5.12	12.34	12.49
5A	5O	Funding 5¾pc '87-91‡‡	65⅛	1.3	8.85	10.85
22J	22Ja	Treasury 12¾pc '92‡‡	103⅞	16.12	12.64	12.60
21F	21A	Treasury 10pc 1992	86⅞	16.1	11.78	12.29
25F	25A	Exch. 12¼pc '92	99¼	19.1	12.56	12.62
		Over Fifteen Years				
14J	14Ju	Treasury 12½pc '93‡‡	102¼	8.12	12.62	12.63
15M	15S	Funding 6pc 1993‡‡	62½	6.2	9.68	11.24
23M	23S	Treasury 13¾pc 1993‡‡	112⅛	17.10	12.89	12.75
1M	1S	Treasury 14½pc '94‡‡	113⅝	23.1	12.97	12.74
22F	22A	Exch. 12½pc 1994	100½	16.1	12.67	12.69
17M	17N	Treasury 9pc '94‡‡	78¼xd	11.10	11.39	11.94
25Ju	25Ja	Treasury 12pc '95	98½	19.12	12.53	12.59
1M	1N	Gas 3pc '90-95	45½xd	28.3	6.63	9.59
21Ja	21J	Exch. 10¼pc 1995	86¼	—	12.13	12.45
15M	15N	Treasury 12¾pc '95‡‡	99⅞xd	10.10	12.64	12.63
15M	15S	Treasury 9pc '92-96‡‡	78¼	6.2	11.62	12.10
3M	3N	Treasury 15¼pc '96‡‡	116¼xd	28.3	13.06	12.84
15M	15N	Exchequer 13¼pc '96‡‡	103¼xd	10.10	12.72	12.67
1A	1O	Redemption 3pc 1986-96	44¼	23.2	6.80	9.46
22J	22Ja	Treasury 13¼pc '97‡‡	107	16.12	12.75	12.68
21F	21A	Exchequer 10½pc 1997	87½	16.1	12.22	12.44
1M	1S	Treasury 8¾pc 1997‡‡	76½	23.1	11.61	12.05
1M	1N	Treasury 6¾pc '95-98‡‡	61½xd	28.3	10.93	11.75
30M	30S	Treas. 15½pc '98‡‡	119⅞	21.2	13.01	12.83
15J	15Ja	Treasury 9½pc 1999‡‡	82¾	9.12	11.82	12.09
19M	19N	Treasury 10½pc 1999	84⅞xd	—	12.24	12.42
14J	14Ju	Funding 3½pc '99-04	37⅞	8.12	9.46	10.72
5A	5O	Treasury 8pc '02-06‡‡	69¼	1.3	11.60	11.80
10M	10S	Treasury 5½pc '08-12‡‡	49⅛	7.2	11.33	11.58
26J	26Ja	Treasury 7¾pc '12-15‡‡	68¼	20.12	11.65	11.73
		Undated				
1F	1A	Consols 4pc	33½	28.12	12.24	—
1J	1D	War Loan 3½pc‡‡	34⅜	25.10	10.59	—
1A	1O	Conv. 3½pc '61 Aft.	35⅛	23.2	10.01	—
5A	5O	Treasury 3pc '66 Aft.	24⅜	1.3	12.36	—
5Ja.A.Ju	O	Consols 2½pc	21⅛	1.3	11.81	—
1A	1O	Treasury 2½pc	20½	23.2	12.26	—

**INTERNATIONAL BANK

15F	15A	5pc Stock '77-82	83	6.11	6.02	9.90

**CORPORATION LOANS

COMMONWEALTH & AFRICAN LOANS

LOANS

Public Board and Ind.

Financial

FOREIGN BONDS & RAILS

U.S. $ & DM prices exclude inv. $ premium

AMERICANS

AMERICANS—Continued

S.E. List Premium 48½% (based on $US1.8625 per £)

Conversion factor 0.6742 (0.6805)

CANADIANS

S.E. List Premium 48½% (based on $2.1450 per £)

BANKS AND HIRE PURCHASE

Hire Purchase, etc.

BEERS, WINES AND SPIRITS

BUILDING INDUSTRY, TIMBER AND ROADS

BUILDING INDUSTRY—Cont.

CHEMICALS, PLASTICS

CINEMAS, THEATRES AND TV

DRAPERY AND STORES

DRAPERY AND STORES—Cont.

ELECTRICAL AND RADIO

ENGINEERING MACHINE TOOLS

ENGINEERING—Continued

FOOD, GROCERIES, ETC.

HOTELS AND CATERERS

HOTELS—Continued

INDUSTRIALS (Miscel.)

INDUSTRIALS—Continued

[illegible]

INSURANCE

[illegible]

INSURANCE—Continued

[illegible]

MOTORS, AIRCRAFT TRADES

Motors and Cycles

[illegible]

Commercial Vehicles

[illegible]

Components

[illegible]

Garages and Distributors

[illegible]

NEWSPAPERS, PUBLISHERS

[illegible]

PAPER, PRINTING ADVERTISING

[illegible]

PROPERTY

[illegible]

PROPERTY—Continued

[illegible]

SHIPBUILDERS, REPAIRERS

[illegible]

SHIPPING

[illegible]

SHOES AND LEATHER

[illegible]

SOUTH AFRICANS

[illegible]

TEXTILES

[illegible]

TOBACCOS

[illegible]

TRUSTS, FINANCE, LAND

Investment Trusts

[illegible]

INV. TRUSTS—Continued

[illegible]

Finance, Land, etc.

[illegible]

FINANCE, LAND—Continued

[illegible]

OILS

[illegible]

OVERSEAS TRADERS

[illegible]

RUBBERS AND SISALS

[illegible]

TEAS

India and Bangladesh

[illegible]

Sri Lanka

[illegible]

Africa

[illegible]

MINES

CENTRAL RAND

[illegible]

EASTERN RAND

[illegible]

FAR WEST RAND

[illegible]

O.F.S.

[illegible]

FINANCE

[illegible]

DIAMOND AND PLATINUM

[illegible]

MINES—Continued

CENTRAL AFRICAN

Dividends Paid	Stock	Price	Last xd	Div Net	Cvr	Y'ld Gr's
Nov. May	Falcon Rh.50c	175xd	3.4	Q50c	1.3	24.4
May	Rhod'n Corp. 16½p	19½	3.77	0.56	ϕ	4.5
—	Roan Cons. K4	65	12.74	—	—	—
Dec. July	Tanganyika 50p	128	17.10	Q11.0	1.1	8.6
Jan. July	Do. Pref. 80p	80	12.12	Q9%	16.4	9.0
Nov. May	Wankie Col. Rh.1	38	17.10	†Q7½c	1.4	17.8
—	Zam.Cpr.SBD0.24	11	11.74	—	—	—

AUSTRALIAN

Dividends Paid	Stock	Price	Last xd	Div Net	Cvr	Y'ld Gr's
—	Acmex 25c	10	—	—	—	—
Nov. Apr.	Bougainville 50 Toea	102	14.3	Q8c	1.4	4.9
—	BH South 50c	76	9.74	—	—	—
Oct. May	Conzinc Riotinto 50c	207	14.3	Q10c	2.2	3.0
—	G.M. Kalgoorlie $1	56	6.67	—	—	—
September	Hampton Areas 5p	98	25.7	1.45	4.1	2.2
—	Metals Ex. 50c	14	—	—	—	—
Dec. Apr.	M.I.M. Hldgs. 50c	178	13.2	Q9c	1.7	3.1
—	Mount Lyell 25c	23	—	—	—	—
—	Newmetal 10c	2	—	—	—	—
June Nov.	North B. Hill 50c	108	31.10	Q6c	1.5	4.6
—	Nth. Kalgurli	10½	—	—	—	—
June Nov.	Oakbridge $A1	153	7.4	†Q11c	1.9	4.5
—	Pacific Copper	38	—	—	—	—
—	Pancont'l 25c	975	—	—	—	—
—	Paringa M&Ex.5p	15½	—	—	—	—
Apr. Oct.	Peko-Wallsend 50c	447	19.9	Q15c	4.0	2.1
Oct. May	Western Mining 50c	116xd	3.4	Q6c	1.4	3.2
—	Whim Creek 20c	40	—	—	—	—

TINS

Dividends Paid	Stock	Price	Last xd	Div Net	Cvr	Y'ld Gr's
Nov. Apr.	Amal. Nigeria	24	13.3	+2.51	1.6	15.9
Apr. Oct.	Ayer Hitam $M1	290	13.3	‡Q16.7c	0.9	‡
Apr. Oct.	Beralt Tin	53	8.8	3.75	2.3	10.7
Jan. July	Berjuntai $M1	238	3.1	†Q110c	ϕ	‡
Feb. Oct.	Geevor	128	16.1	18.05	3.4	21.4
—	Gold & Base 12½p	9½	10.74	—	—	—
Apr. Dec.	Gopeng Cons.	225	30.1	15.0	0.9	10.3
—	Hongkong	147	11.67	—	—	—
Mar. Sept.	Idris 10p	83	30.1	7.5	ϕ	14.5
—	Jantar 12½p	11	4.67	—	—	—
—	Kamunting $M0.50	68	—	‡Q15.5c	0.7	4.9
Jan. July	Killinghall	450	12.12	Q125	ϕ	27.8

[illegible]

COPPER

[illegible]

MISCELLANEOUS

Dividends Paid	Stock	Price	Last xd	Div Net	Cvr	Y'ld Gr's
—	Burma Mines 17½p	9	5.75	—	—	—
Aug. Feb.	Cons. Murch. 10c	240	3.1	Q30c	2.6	7.5
—	Northgate C$1	510	3.75	—	—	—
Jan. June	R.T.Z.	190	31.10	9.5	ϕ	7.8
—	Sabina Inds. C$1	31	—	—	—	—
—	Tara Explm. $1	818	—	—	—	—
Nov. July	Tehidy Minerals 10p	43	17.10	1.21	2.5	4.3
October	Yukon Cons. C$1	154	15.9	Q7c	ϕ	2.2

NOTES

Unless otherwise indicated, prices and net dividends are in pence and denominations are 25p. Estimated price/earnings ratios and covers are based on latest annual reports and accounts and, where possible, are updated on half-yearly figures. P/Es are calculated on the basis of net distribution; bracketed figures indicate 10 per cent. or more difference if calculated on "nil" distribution. Covers are based on "maximum" distribution. Yields are based on middle prices, are gross, adjusted to ACT of 34 per cent. and allow for value of declared distributions and rights. Securities with denominations other than sterling are quoted inclusive of the investment dollar premium.

- ▲ Sterling denominated securities which include investment dollar premium.
- ● "Tap" Stock.
- * Highs and Lows marked thus have been adjusted to allow for rights issues for cash.
- † Interim since increased or resumed.
- ‡ Interim since reduced, passed or deferred.
- ‡‡ Tax-free to non-residents on application.
- ϕ Figures or report awaited.
- †† Unlisted security.
- ø Price at time of suspension.
- ¶ Indicated dividend after pending scrip and/or rights issue; cover relates to previous dividend or forecast.
- ** Free of Stamp Duty.
- ♦ Merger bid or reorganisation in progress.
- ♣ Not comparable.
- ♠ Same interim: reduced final and/or reduced earnings indicated.
- § Forecast dividend; cover on earnings updated by latest interim statement.
- ‡ Cover allows for conversion of shares not now ranking for dividends or ranking only for restricted dividend.
- ★ Cover does not allow for shares which may also rank for dividend at a future date. No P/E ratio usually provided.
- ♥ Excluding a final dividend declaration.
- ✤ Regional price.
- II No par value.

a Tax free. b Figures based on prospectus or other official estimate. c Cents. d Dividend rate paid or payable on part of capital; cover based on dividend on full capital. e Redemption yield. f Flat yield. g Assumed dividend and yield. h Assumed dividend and yield after scrip issue. j Payment from capital sources. k Kenya. m Interim higher than previous total. n Rights issue pending. q Earnings based on preliminary figures. r Australian currency. s Dividend and yield exclude a special payment. t Indicated dividend: cover relates to previous dividend, P/E ratio based on latest annual earnings. u Forecast dividend: cover based on previous year's earnings. v Tax free up to 30p in the £. w Yield allows for currency clause. y Dividend and yield based on merger terms. z Dividend and yield include a special payment: Cover does not apply to special payment. A Net dividend and yield. B Preference dividend passed or deferred. C Canadian. D Cover and P/E ratio exclude profits of U.K. aerospace subsidiaries. E Issue price. F Dividend and yield based on prospectus or other official estimates for 1977-78. G Assumed dividend and yield after pending scrip and/or rights issue. H Dividend and yield based on prospectus or other official estimates for 1976-77. K Figures based on prospectus or other official estimates for 1978. M Dividend and yield based on prospectus or other official estimates for 1978. N Dividend and yield based on prospectus or other official estimates for 1979. P Dividend and yield based on prospectus or other official estimates for 1977. Q Gross. T Figures assumed. U No significant Corporation Tax payable. Z Dividend total to date. ‡‡ Yield based on assumption Treasury Bill Rate stays unchanged until maturity of stock.

Abbreviations: xd ex dividend; xc ex scrip issue; xr ex rights; xa ex all; xd ex capital distribution.

"Recent Issues" and "Rights" Page 35

This service is available to every Company dealt in on Stock Exchanges throughout the United Kingdom for a fee of £400 per annum for each security

REGIONAL MARKETS

The following is a selection of London quotations of shares previously listed only in regional markets. Prices of Irish issues, most of which are not officially listed in London, are as quoted on the Irish exchange.

Albany Inv. 20p	23	......
Ash Spinning	45	......
Bertam	24	......
Bdg'wtr. Est. 50p	270	......
Clover Croft	22	......
Craig & Rose £1	410	......
Dyson (R. A.) A.	41	......
Ellis & McHdy	65	......
Evans Fr'k. 10p	57	......
Evered	15¼	......
Fife Forge	47	......
Finlay Pkg. 5p	20xd	......
Graig Ship. £1	150	......
Higsons Brew	80	......
I.O.M. Stm. £1	145	......
Holt (Jos.) 25p	250	−5
N'thn. Goldsmith	53	......
Pearce (C. H.)	129	......
Peel Mills	18½	......
Sheffield Brick	46	......
Sheff. Refrshmt.	51	......
Sindall (Wm.)	85	......

IRISH

Conv. 9% '80/82	£93¾	−¼
Alliance Gas	65	......
Arnott	290	......
Carroll (P.J.)	90	......
Clondalkin	91xd	......
Concrete Prods.	128	......
Heiton (Hldgs.)	43	......
Ins. Corp.	190	......
Irish Ropes	132	......
Jacob	65	......
Sunbeam	29xd	+1
T.M.G.	175	......
Unidare	95	......

OPTIONS

3-month Call Rates

Industrials	
A. Brew	6½
A.P. Cement	18
B.S.R.	9
Babcock	10
Barclays Bank	25
Beecham	38
Boots Drug	15
Bowaters	16
B.A.T.	24
British Oxygen	6
Brown (J.)	20
Burton 'A'	13
Cadburys	5
Courtaulds	10
Debenhams	10
Distillers	13
Dunlop	8½
Eagle Star	11
E.M.I.	18
Gen. Accident	17
Gen. Electric	13
Glaxo	40
Grand Met.	9
G.U.S. 'A'	18
Guardian	18
G.K.N.	22
Hawker Sidd.	20
House of Fraser	12
I.C.I.	23
"Imps"	7
I.C.L.	20
Inveresk	7
KCA	5
Ladbroke	17
Legal & Gen.	14
Lex Service	7
Lloyds Bank	22
"Lofs"	5
London Brick	5
Lonrho	7
Lucas Inds.	25
Lyons (J.)	13
"Mams"	7
Mrks. & Spncr	11
Midland Bank	25
N.E.I.	20
Nat. West. Bank	22
Do. Warrants	10
P & O Dfd.	10
Plessey	9
R.H.M.	5
Rank Org. 'A'	18
Reed Intl.	14
Spillers	4
Tesco	4
Thorn	22
Trust Houses	15
Tube Invest.	30
Unilever	40
Utd. Drapery	7½
Vickers	15
Woolworths	6

Property	
Brit. Land	3¾
Cap. Counties	5
E.P.	5
Intreuropean	4
Land Secs.	18
MEPC	12½
Peachey	10
Samuel Props.	10
Town & City	2

Oils	
Brit. Petroleum	35
Burmah Oil	7
Charterhall	3½
Shell	28
Ultramar	22

Mines	
Charter Cons.	12
Cons. Gold	20
Rio T. Zinc	16

FINANCIAL TIMES

Monday April 17 1978

Economic pact with Ireland expected

BY GILES MERRITT

THE BRITISH and Irish Governments will announce soon an economic co-operation pact that should have far-reaching implications for the development of Ulster.

A report that sets out areas for joint action, notably between Northern Ireland and the South has been submitted for the approval of Mr. Callaghan and Mr. Jack Lynch, the Irish Prime Minister. In spite of the present deterioration in Anglo-Irish relations due to disagreement over Ulster, it is expected that the document will be announced jointly next month.

The report may be unveiled in Dublin if Mr. Roy Mason, the Ulster Secretary, visits the Irish capital next month for a meeting with Mr. Michael O'Kennedy, the Irish Foreign Minister, that was postponed just before Easter.

Officials in both Dublin and Belfast are concerned to play down the implications of the report for fear that it will arouse political sensitivities, particularly among Ulster Unionists.

But they say that acceptance of its proposals by both governments would give a green light to a wide variety of cross-border projects and joint ventures.

The Anglo-Irish study was initiated by Mr. Callaghan and Mr. Lynch when they met in London last September, and its findings are divided into four broad categories:

Harmonisation

1—North-South co-operation on industrial projects and programmes for increasing cross-border trade. Only about 4 per cent. of the Republic imports come from Ulster.

2—Energy co-operation under which Ulster's anticipated electricity surplus in the 1980s could be sold to the South, or perhaps exchanged against the Republic's natural gas from the extensive Kinsale Head field.

In addition to the re-opening of the 300 MW interconnector between Ulster and the Republic damaged by the IRA, the report considers a cross-channel inter-connection between Ireland and Britain.

3—Transport and infrastructural co-operation, which would iron out anomalies created by unrelated planning on the two sides of the border and would create more efficient North-South road and rail links.

In the past, the emphasis in Dublin and Belfast has been more on links with Britain.

4—Customs harmonisation and the streamlining of procedures that at present add an average 12 hours to the 3-4 hour Dublin freight trip.

Only last week the Irish Grain Board said that this "administrative muddle" was seriously jeopardising the Republic's grain exports to Ulster, worth £10m. a year.

Few benefits

With the exception of customs procedures, which it is expected can be reorganised before the end of this year, the Anglo-Irish pact will yield few immediate benefits.

Instead, it will initiate a number of feasibility studies into major cross-border projects that would help broaden Ulster's industrial base.

The chief political stumbling block to this co-operation however, is Northern Ireland and British suspicion that Mr. Lynch's anti-partitionist Fianna Fail Government sees it as a step towards federal reunification of Ireland.

Background, Page 5

Stewards try again to rescue Speke

BY NICK GARNETT, LABOUR STAFF

A CO-ORDINATED national programme involving dockers, road hauliers and other groups, is to be urged against British Leyland's plan to shut its car assembly plant at Speke on May 26.

Transport and General Workers' shop stewards at the plant will be urging the action on union officers.

After the overwhelming vote by Speke workers at the week-end against both closure and the redundancy terms offered, shop stewards will redouble attempts to force British Leyland at least to introduce new work into both the car assembly and body-building plants at Speke.

The executive of the national shop stewards committee in British Leyland is also meeting in the next fortnight to discuss the position.

The committee has agreed that no work on the TR7 will be transferred from Speke to other plants unless arrangements made on Merseyside satisfy the workers. Mr. Derek Robinson, the committee's chairman, said yesterday that serious consideration would be given to any appeal by Speke shop stewards for a series of strikes at British Leyland.

Mr. Terry Duffy, the Amalgamated Union of Engineering Workers' executive member for the motor industry, said that the Confederation of Shipbuilding and Engineering Unions was almost certain to give the Speke workers official backing after the week-end vote.

The confederation last week deferred its decision on Speke until April 24.

Mr. Grenville Hawley, national automotive secretary for the TGWU, said that further talks with British Leyland were essential.

National union officials will again press the company to postpone the closure date and examine more closely the possibility of bringing new work into Speke from the company's other divisions, including bus and truck, and special products.

Further discussions are also likely on the size of redundancy payments on which British Leyland has indicated it is prepared to negotiate.

Some Speke shop stewards said yesterday that the size of the payments had had some effect on the week-end vote against compulsory redundancies.

But the dominant factor had been a strong desire to resist any loss of jobs at Speke.

Labour confidence grows over first Budget vote

BY PHILIP RAWSTORNE

THE GOVERNMENT, bolstered by growing signs of a revival in Labour's electoral support, is confident of winning the first Commons vote on the Budget to-night by a comfortable majority and surviving later attacks on its strategy.

Liberal MPs, in spite of their demands for greater tax cuts, will support the Government in resisting the Tory challenge to the general Budget resolution.

Ministers also seem likely to avoid the threat of some political embarrassment by blocking a Labour Left-wing move to vote against tax reliefs for the higher paid.

Mr. George Thomas, the Speaker, is expected to reject a request from about 30 Tribune Group MPs for separate votes on the higher tax concessions.

Mr. Ron Thomas, Labour MP for Bristol, said yesterday that if they were denied a vote to-night, the Left-wing group would renew the attack during the Commons debates on the Finance Bill.

"If there is money available, it should go to the lower paid and the average paid workers not those of £25,000 a year," he said.

Ministers, however, view the Left-wing threat with considerably less concern than the prospect of Tory and Liberal attempts to increase tax reliefs during the Finance Bill's committee stage.

Liberals have yet to decide where to direct the main thrust of their amendments—towards cuts in the standard rate, an extension of the lower band, or further reliefs in the middle and higher income range.

Mr. John Pardoe, the party's economic spokesman, firmly reiterated yesterday that further tax reductions would be forced through in spite of Government warnings that it might be pushed into a General Election.

Anxious

The tactics were also given the unanimous backing of the Welsh Liberal Party's conference at Aberystwyth, where Mr. Emlyn Hooson told delegates that the Lib-Lab pact was clearly drawing to an end.

But in spite of the Liberal assertions, the odds are that the party's MPs—several of whom are anxious to have both the Scottish and Welsh devolution Bills on the Statute Book—will stop short of forcing the Government's election hand by overturning the Budget strategy.

Mr. Jermey Thorpe, the former Liberal leader, hinted at the week-end that top tax rates, where further reliefs would be less costly, would be the party's prime target.

Ministers also believe that the prospects of a Tory-Liberal alliance inflicting severe damage on the Budget strategy may be contained by their warning that lost revenue would be regained from increases in employers' National Insurance contributions.

Government resistance has undoubtedly been stiffened by the post-Budget opinion polls, which not only show that the Budget has been generally popular, but that Labour's electoral revival appears to be gathering strength.

In spite of the stock market reaction, a poll in the Sunday Times conducted by Market and Opinion Research International, showed that 69 per cent. thought the Budget was good for Britain and 68 per cent. said it had been good for them personally.

According to the poll, the Government was running only 2 per cent. behind the Conservatives and there was a growing feeling that the country's economy was improving.

Union growth main achievement of last four years, says Benn

BY PHILIP BASSETT, LABOUR STAFF

TRADE UNION growth was the most important achievement of the past four years, Mr. Tony Benn, Energy Secretary, said yesterday.

Mr. Benn told the tenth annual conference of the Institute for Workers' Control at Sheffield that relationship between the Government and trade unionists was totally transformed from the relationship in the 1964-70 Labour Government.

People were seeing the need for union organisation at income levels of £10,000 to £20,000—unthinkable 15 years ago.

No substitute existed for strong trade unionism in dealing with plant closures. Trade unionism was an absolutely essential part of any alternative strategy for workers' control. We must have strong unions, we must recruit for them, and we must support them.

The slump of the 1930s was ended only by rearming for war, and the Socialist chase for public investment, public accountability and public ownership was the only alternative to rearmament.

Mr. Benn was strongly in favour of workers' control in the mining industry, which was not accepted in the National Union of Mineworkers as a whole.

Mr. Arthur Skargill, Yorkshire president of the National Union of Mineworkers, had argued earlier against workers' control. It was, in effect, the castration of the union movement and meant, in effect, total collaboration by the working class.

Long term future, Page 6

Egg surplus warning

BY CHRISTOPHER PARKES

POULTRY FARMERS will find themselves in economic difficulties net winter if they carry on buying in young chicks at the presnt rate, the Eggs Authority, said yesterday. Consumers on the other hand, could benefit from a glut of cheap eggs.

The authority, the poultry industry's advisory body, issued its second warning of the year to egg producers, who appear to have ignored the first, given in February.

The number of chicks placed on U.K. farms in January was 7.5 per cent. higher than a year ago. Placings rose 4 per cent. in February.

The whole Common Market egg industry appears to be well on the way to a surplus.

Goldenlay, an egg marketing consortium, has already detected sharpening competition in the EEC market and in the Middle East — a valued outlet for Europe's surpluses.

Restraint by Third World shipyards sought

By Ian Hargreaves, Shipping Correspondent

EASIER CREDIT for ship exports and a plan for some co-operation from developing countries in the face of the world shipbuilding slump will be considered in Paris this week.

A meeting starting to-day of the Organisation for Economic Co-operation and Development's working party on shipbuilding will also give European members an opportunity to question Japan about its stated plans to cut the capacity of its shipyards.

The plan for easier credit on ship sales suggests that shipyards should be allowed similar OECD credit terms to those available to aircraft manufacturers—85 per cent. credit repayable over 10 years instead of only 70 per cent. over seven years. It would have widespread support among shipyards.

Shipowners would stand to gain from any easing of credit, but would have reservations about providing stimulus to demand at a time when there is gross and long-term overcapacity in virtually every sector of shipping.

There is more agreement on the need to involve so-called Third World countries in the OECD's strategy on shipbuilding, but little common ground so far on how this should be achieved.

South Korea

The OECD countries fear that unless yards in developing nations can be persuaded to curtail their expansion plans and increasingly aggressive marketing, any reduction of facilities in the West and Japan would simply be exploited by third countries.

Countries outside the West and Japan accounted for 21 per cent. of new orders last year. South Korea, the biggest threat, came second behind only Japan with almost 6 per cent. of the total according to recent Lloyd's Register figures.

A report last week by London consultants H. P. Drewry put the OECD yards' average orderbook at a mere 14 months, against Third World countries' 3.8 years.

The Japanese, however, are more chary than the Europeans about any blunt OECD approach to third countries, with whom Japan is keen to foster diplomatic and trading links.

European move

Among measures to be discussed by the working party this week are an attempt to get third countries to adopt OECD export credit guidelines on ships, and possibly a move to gain acceptance for the organisation's rules for State aid to shipbuilding.

There has not been a full meeting of the working party since the Shipbuilders' Association of Japan announced in January that its members would cut their yards' capacity by up to half by the end of next year if Government aid was available to cover the transition costs.

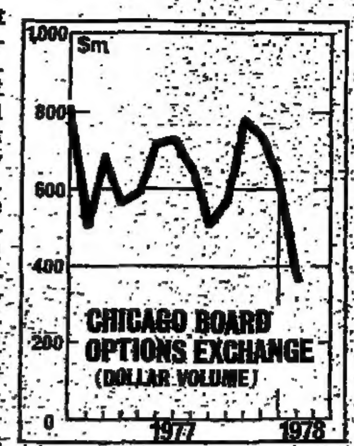
European delegates will be seeking to establish the permanence of the proposed cuts and will in turn be called upon to demonstrate their own progress in reducing capacity.

Although many European countries have announced scaling down programmes of between 30 and 50 per cent., few have actually succeeded in implementing them.

THE LEX COLUMN

The countdown for London options

This Friday brings the first day of trading on the new London market in traded options. Its supporters do not expect that in the early stages it will be anything more than a modest success, and its opponents say that it will be a humiliating flop. But until two questions have been resolved, the likely outcome is pure speculation. Will the dealing system in London—which is unlike that of any other established options exchange—lead to a fair and efficient market? And will the public participate?



Options markets, unless carefully controlled, lend themselves to manipulation. An option represents the right to buy a share at some future date, and small changes in the price of the underlying security can have a dramatic impact on its value. In the U.S. the Securities and Exchange Commission has reported a stream of abuses over the last couple of years, and has placed a moratorium on any further expansion of options business.

Disadvantages

Superficially, at least, the London dealing system looks especially vulnerable to the practices which have so offended the SEC. Many of its disadvantages arise from the fact that after years of debate, the system that has emerged is very much of a compromise. Whereas Amsterdam splashed out £3m. on a brand new trading floor, London's investment in terms of hardware runs to no more than a few thousand pounds.

As a result, dealings in the option will be taking place on the same floor but not in the same place as in the underlying security. Supervising each trading post will be a Board dealer, who acts as a custodian for all public limit orders. In Amsterdam, this official is an employee of the Exchange and is forbidden to take a position, but in London he will be a member of a firm of jobbers (which may also be making a market in the underlying security) and he will be able to trade on his own account.

Its critics claim that this system will lead to endless conflicts of interest, the more so because in the U.K. details of the most recent trade in the underlying security are not disclosed, as they are in the U.S. But the dangers are probably more apparent than real.

The jobbers argue that any attempt to run their options book in harmony with their position in the underlying security would be a recipe for disaster, since whatever happens they are obliged to go on making a market. They can be long of a stock at one moment and short the next—and unless they could continuously monitor the two books (which they can't), they would be horribly exposed if their stance in the options market was geared to what might be only a momentary position in the underlying stock.

Moreover it ought to be easier to detect hanky panky in a centralised market like London than it is in the U.S., where shares and options are being dealt in all over the place. No cowboys will be able to walk in from the streets, since the floor is confined to Stock Exchange members. For every winner in options there is also a loser and no-one is going to tolerate tic-tac men signalling from one pitch to another, or other such abuses. The occasional attempt may be successful, but in a market which is based on the continued willingness of its members to deal with each other, the risks of exposure would be great.

In addition to being fair an efficient market also needs to have depth and liquidity, and this is going to be London's biggest problem. Options are not being created in response to public demand, and remarkably little effort has been made to tell people what they are all about. The market has come into being largely because its supporters were looking for ways of replacing lost equity business, and because a sufficient number of its opponents became scared that London might lose international business in the underlying securities—which, they felt, might be sucked across to the continent by the European Options Exchange.

With some exceptions the running has been made by middle sized broking houses, which do not have much in the way of gilts or new issue business. Blue bloods like Cazenove, Rowe and Pitman, or Hoare Govett have stayed in the background.

No one is going to get killed in the rush on Friday. The capital gains tax rules are an enormous hurdle for the private investor. Options are treated as a wasting asset, which means that a buyer can make a loss and still have to pay tax; the seller too, can be stung if he wants to close out his position.

Last week's tax concessions will help, of course, but options are not for the inactive small investor, and there is no tradition in the U.K. of the lift boy being an active player of the market. The Stock Exchange, rightly, has gone out of its way to ensure that everyone knows the risks; clients have to give a signed letter of authority to their brokers, and a formidable document it is too.

Among the institutions, the unit trusts for the moment at least are not allowed to deal, and trustees of some other funds are going to require a lot of persuasion. In addition, the current market climate is most unfavourable. Falling share prices have knocked volume in Chicago back sharply this year—and put options are permitted there, which they will not be in London.

Prime requirement

In the SEC's view, active market makers are the prime requirement of a healthy options exchange. The fewer there are, the narrower the market and the wider the spreads, because there is less continuity of prices and the risks are bigger. On a good day in Chicago, there can be a dozen market makers in the IBM crowd. London is going to have to get by with not many more than that to cover the entire options exchange in the early stages.

Brokers and jobbers say they will commit more men if the options market takes off, but this is a real chicken and egg argument. As things stand, some of the leading participants in the options market are prepared to admit privately that its chances of being more than a minor distraction are not much better than even. In any event, the market is going to need more than a few months to establish itself.

Hint of pay claim moderation

BY RAY PERMAN, SCOTTISH CORRESPONDENT

IT IS BECOMING clear that the Government can expect moderation from the unions in the next crucial pre-election pay round—provided it does not try to secure a formal deal or strict adherence to a new guideline.

Mr. Moss Evans, the new leader of the Transport and General Workers' Union, said yesterday that he wanted a return to normal pay bargaining, unfettered by any norms or percentages.

"But that does not mean unions will not act responsibly. Responsibility is not the monopoly of the Government or of the General Council of the TUC."

Mr. Evans, who will detail his union's position at the Scottish TUC conference in Aberdeen this week, spoke approvingly of the movement in the Budget toward reflating the economy, which had been made without any suggestion of a quid pro quo from the Labour movement.

More measures, including selective import controls, would be needed. The transport workers would ask the Government, in its role as an employer, to take a lead in introducing a 35-hour week and early retirement as a means of creating new jobs to reduce unemployment.

"We recognise the importance of making a complete economic recovery, and to do that it is necessary to have a Labour Government.

"If there is to be a General Election this year, the Labour Party will have the maximum support of the TGWU, because we believe that if a Tory Government were elected it would be a disaster for Britain.

"It will be part of our campaign to tell our members to bargain freely with their employers.

"It will be up to them to decide whether they are acting responsibly or not, and not to our executive, because we are not going to lay down any norms or percentages for them to follow."

Continued from Page 1

Earnings limit

pected to drop further to around 7 per cent., the rises in earnings this year imply a substantial increase in living standards.

The February index for average earnings, and the March figures for basic wage rates and normal weekly hours, are due to be published on Wednesday.

In his Budget speech, Mr. Healey stressed the importance of achieving much lower levels of increase in wage costs during the coming year, to prevent a significant renewed rise in inflation.

Earnings were still growing faster than in most of the countries with which Britain had to compete, and would be the key to the inflation rate next year.

The progress of the economy will also be highlighted by to-day's figures of the volume of retail sales for March. The February results showed a significant recovery, with a sharp rise in the sales of durable goods.

Weather

U.K. TO-DAY

GENERALLY DRY and cloudy. Cold.

London, Cent. S. England, Midlands
Dry, rather cloudy; sunny intervals. Max. 11C (52F).

S.E. England, E. Anglia
Sunny intervals, isolated showers. Max. 10C (50F).

Channel Is., S.W. England, Wales, I. of Man, N. Ireland
Dry, sunny intervals. Max. 12C (54F).

E., N.W., Cent. N., N.E. England, Lakes, Borders, Edinburgh, Dundee, S.W. Scotland, Glasgow
Dry, rather cloudy. Max. 10C (50F).

Aberdeen, Highlands, Moray Firth, N.E. Scotland
Dry, rather cloudy. Max. 8C (46F).

Argyll, N.W. Scotland
Dry, rather cloudy. Max. 9C (48F).

Orkney, Shetland
Mostly cloudy, rain in places. Max. 7C (45F).

Outlook: Cold and showery.

HOLIDAY RESORTS

		Y'day mid-day °C	°F			Y'day mid-day °C	°F
Amsterdm	H	6	43	Luxemb'g	F	5	41
Athens	S	20	68	Madrid	S	15	59
Bahrain	C	26	79	Manchestr	C	8	46
Barcelona	S	12	54	Melbourne	C	15	59
Beirut	C	22	72	Milan	S	14	57
Belfast	F	10	50	Montreal	S	7	45
Belgrade	F	8	46	Munich	C	5	41
Berlin	F	8	46	Newcastle	C	9	48
Birm'ham	C	9	48	New Delhi	S	38	100
Bristol	C	10	50	New York	S	11	52
Brussels	F	5	41	Oslo	S	9	48
Budapest	C	4	39	Paris	C	8	46
B. Aires	S	22	72	Perth	S	23	73
Cairo	S	34	93	Prague	Sl	5	41
Cardiff	F	11	52	Reykjavik	C	9	48
Chicago	S	7	45	Rio de J'o	C	33	92
Cologne	C	3	37	Rome	C	15	59
Copenhagen	F	9	48	Singapore	C	30	86
Dublin	F	11	52	Stockholm	F	7	45
Edinburgh	C	10	50	Strasbrg	C	6	43
Frankfurt	F	5	40	Sydney	C	19	66
Geneva	C	9	48	Tehran	S	21	70
Glasgow	C	9	48	Tel Aviv	S	23	73
Helsinki	R	3	37	Tokyo	C	20	68
H. Kong	S	25	77	Toronto	C	8	46
Jo'burg	S	26	79	Vienna	R	4	39
Lisbon	C	16	61	Warsaw	C	7	45
London	C	8	46	Zurich	R	4	39

BUSINESS CENTRES

		Y'day mid-day °C	°F			Y'day mid-day °C	°F
Ajaccio	S	15	59	Jersey	F	9	48
Algiers	F	19	66	Las Plms	S	20	68
Biarritz	S	11	52	Locarno	S	15	59
Blackpool	C	9	48	Majorca	S	15	59
Bordeaux	F	10	50	Malaga	S	23	73
Boulogne	C	5	41	Malta	F	13	55
Casablnca	C	16	61	Moscow	C	11	52
Cape Tn.	S	20	68	Nairobi	R	20	68
Corfu	T	13	55	Naples	F	12	54
Dubrovnik	R	9	48	Nice	F	15	59
Faro	S	16	61	Nicosia	R	21	70
Florence	F	15	59	Oporto	C	14	57
Funchal	C	19	66	Rhodes	F	19	66
Gibraltar	F	19	66	Salzburg	C	6	43
Guernsey	F	9	48	Tangier	C	16	61
Innsbruck	C	4	39	Tenerife	S	16	61
Inverness	C	9	48	Tunis	F	16	61
Is. of Man	C	7	45	Valencia	S	15	59
Istanbul	F	20	68	Venice	F	12	54

S—Sunny. F—Fair. T—Thunder. C—Cloudy. R—Rain. H—Hail. Sl—Sleet